MOTOR AGE

A Chilton Class Journal Publication Published Weekly July 21, 1927

The success of the Little Custom Jordan is due to the fact that for the first time Quality, Appearance, Power, Comfort and Endurance have been combined with the convenience of small size.

Just the kind of a car that enables dealers to pick their trades—and make cash sales to people who want quality with small size for the second third or fourth car in the family garage. VALVE SEAT REAMER SETS



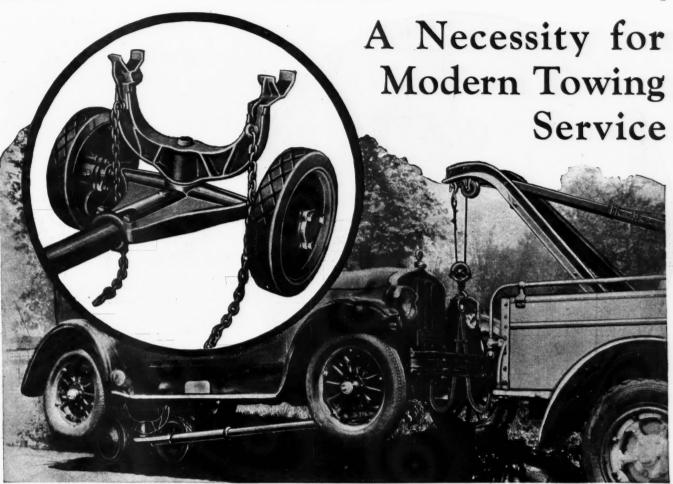
THIS set gives you complete reamer equipment for fast, accurate work in refacing and narrowing valve seats on 90% of all motors. It includes Sioux 45° Roughing Reamer for easily removing hard and crystalized deposits; 45° Finishing Reamer; 15° and 75° Nicked Tooth Reamers for narrowing valve seats with amazing ease and smoothness and without chattering; 5-16 and 3-8" pilot stems with .001, .002 and .003 oversizes in each size for use in worn guide holes to prevent wobbling or traveling and to assure the snug fit necessary for a perfect job.

Sioux Reamer Sets also furnished in Special service station sets for all makes of cars.

Your Jobber Sells Them

ALBERTSON & CO.

Sioux City, Iowa, U.S.A.



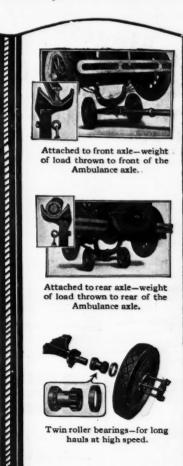
New WEAVER Hi-Speed Auto Ambulance

FOR the highly specialized business of modern road service, at least three things are indispensable—a towing car, an efficient crane (such as the Weaver) and an ambulance that is specially designed for use with your towing car and crane. It is for this class of service that the new Weaver Hi-Speed Ambulance is particularly intended.

In this new Ambulance every requirement of modern road service has been anticipated. The angle of the Ambulance yoke has been carefully calculated so that the yoke will be in a vertical position to safely support the load when the Ambulance pole is attached at a height equivalent to that of the connection on the average towing car or to the front axle of the disabled car, as illustrated. Twin roller bearings in each wheel enable the heaviest passenger cars to be towed on long hauls at high speed.

These are only two of many vital new features the value of which we have proved to ourselves by subjecting this new Ambulance to months of the most gruelling service with our Laboratory Garage service truck (shown above)-features which we should like to have the opportunity of proving to you, if you'll say the word. A postal will do - better mail it now.

WEAVER MANUFACTURING CO., Springfield, Ill., U.S.A. WEAVER CANADIAN COMPANY, LTD., Chatham, Ontario, Canada



Attached to rear axle-weight of load thrown to rear of the Ambulance axle.



Twin roller bearings-for long hauls at high speed.



WEED BUMPERS

AMERICAN CHAIN COMPANY, Inc., Bridgeport, Connecticut

In Canada: Dominion Chain Company, Limited, Niagara Falls, Ontario District Sales Offices: Boston, Chicago, New York, Philadelphia, Pittsburgh, San Francisco

Vol. LII

Established 1899

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Continuous Service

B & R Battery Chargers have no moving parts. Only the bulb, after normal use, requires replacement. This takes less time than is required to tell about it and can be done by anyone. It means something to a busy service station to be reasonably insured against costly tie-ups-and free from the necessity of factory service.





JOHNSON PRODUCTS Piston Pin, Tie Rod, Steering Knuckle, Spring Eye, Spring Shackle, Generator, Starting Motor, Special Miscellaneous Bushings and Parts, Cored and Solid Bar Bronze. The almost unbelievable completeness and the convenient arrangement of the Johnson Catableg makes it easy for the shop supplying rebushing service, to determine the correct bronze bushings for the job.

ousnings for the job.

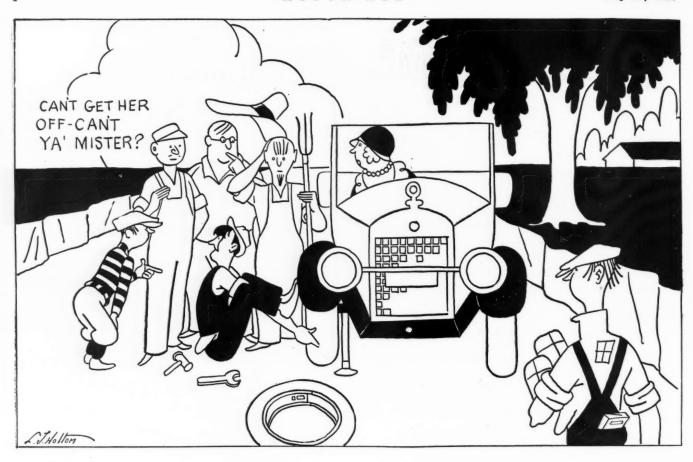
Over five hundred Johnson Jobbers strategically located with complete stock guarantee that these bronze bushings may be obtained with a minimum of delay.

Thus does an efficient catalog and the nearness of a distributing house combine to give you "finger tip" service, enabling you to speed up jobs and enjoy the resulting increased margin of profit.

There is real money in rebushing service if costs are kept down. One way, and a good way, is to use the Johnson Catalog and the Johnson Jobber.

JOHNSON BRONZE COMPANY, NEW CASTLE, PA. SAN FRANCISCO CHICAGO KANSAS CITY





Budd-Michelin Wheels can be changed before the crowd collects!

WE may all be actors at heart—but no one wants to play the hero in a road-side drama of brute force versus a rusty rim.

Nor need any one play it, when riding on Budd-Michelins. For changing Budd-Michelins is a mere matter of moments.

The cap nuts spin off with a few turns of the socket

wrench. Off comes the wheel that has the flat. On goes the extra Budd-Michelin that carries your spare. Back go the cap nuts and you are on your way!

Show a prospect this Budd-Michelin rapid change feature and you've given him one big reason for preferring the carthat

is Budd-Michelin equipped.

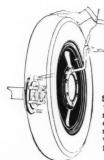
WHEEL COMPANY

Detroit |

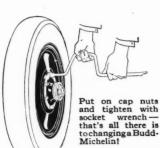
Budd Service Stations in all principal cities—parts and service for wheels of every type.



To put on a Budd-Michelin Wheel, set brakes and place wheel in position before the mount-ing study.



Slip pilot bar through top mounting hole and over top mounting stud. Lift up and wheel slides into





This modern structure, used by Mr. King in 1927 is tangible proof of the growing profit in the Studebaker-Erskine franchise

"... this will be our biggest year"

-S. B. KING

BACK in 1915, S. B. King was refinishing carriages and cars in Marlboro, New Jersey — a farming community of only two hundred population. During his first year as an automobile dealer, he sold three Stude-

In 1915 S. B. King repainted carriages and cars in this building

bakers. By 1925, his sales in this hamlet had grown to 75 cars a year.

Then, with his son as a partner, Mr. King moved to Freehold, a neighboring town of five thousand population. Today the firm of S. B. King and Son sells more than 150 Studebakers each year—at a real profit!

The success of Studebaker's recordsmashing Commander models—plus the new low-priced Erskine Six—actuates Mr. King to prophecy that 1927 "will be our biggest year."

The valuable Studebaker-Erskine franchise may be available in your territory. Write or wire to Department 51, The Studebaker Corporation of America, South Bend, Indiana.

STUDEBAKER

ERSKINE SIX



Two franchises in one-offering cars from \$895 to \$2495

Bought 500,000 feet of lumber . .



Many other lumber companies have like experiences. For example, Atlanta: "... Looking over a list of our stock yesterday, saw an item we thought one of our customers might want. Decided to call by Long Distance. Expense, possibly \$3.50. Developed an order for 5 cars of lumber."

From Nashville: "... Last week we secured a 5-car order by telephone from one of our Louisville customers... this week 3 cars to a Knoxville connection." Jackson, Mississippi: "... A few weeks ago we sold a quarter-million feet of lumber over the telephone to Toronto,

1000 miles away

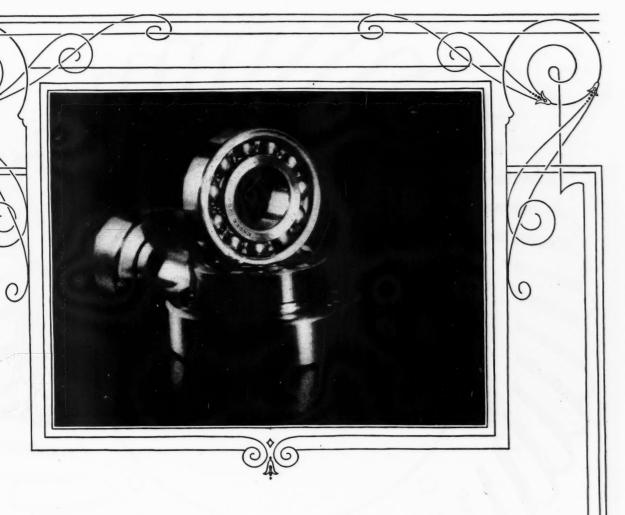
A MEMPHIS LUMBER firm's representative called at the office of a buyer a thousand miles away. He found him in the market for a half-million feet of lumber. He wired this news to his company. They called him at once by long distance telephone, catching him before he left the prospective buyer's office. . When the receivers were hung up, the deal had been closed.

Canada." Mobile: "... We do over 80% of our lumber buying over the long distance phone." Memphis: "... For quick action, for learning the last-minute status on any out-of-town situation, and in effecting satisfactory adjustments, nothing we know of will take the place of long distance service."

For good results, quick, try long distance calls. They'll usually cost less than you think. Number, please?

BELL LONG DISTANCE SERVICE





It is generally conceded that the ball bearing has less friction than any other type of bearing—hence less wear.

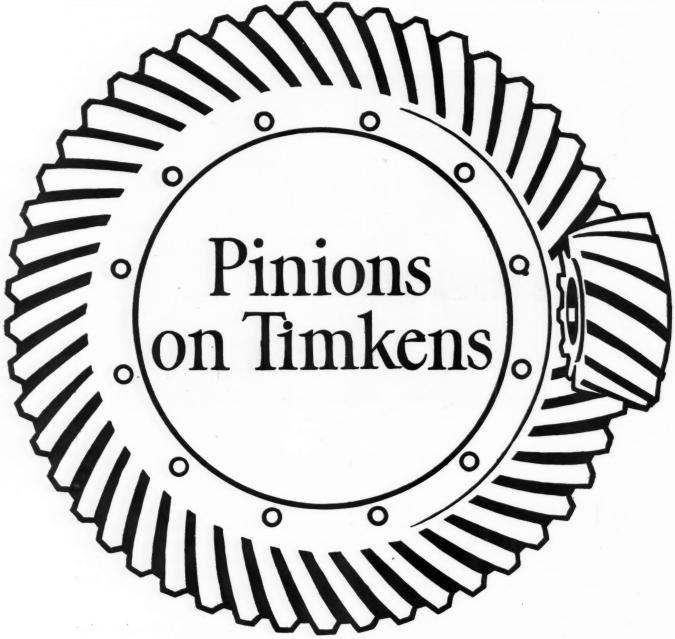
While other types may cost less initially (because invariably made of lower carbon content steel and to less precise dimensions) the time is bound to come when such bearings will need readjustment and eventual replacement, all claims to the contrary notwithstanding.

Considering the excessive cost in loss

of production, increase of overhead and labor expense to make these adjustments or replacements, is it not wisdom to use the New Departure Ball Bearing, since its first cost is the last cost—a true economy in many ways?

The New Departure Manufacturing Company, Bristol, Connecticut, Detroit and Chicago. Resident representatives in industrial centers. Service stocks in 800 cities.

New Departure
Quality
Ball Bearings



It is not merely that the great majority of car, truck and bus makers have adopted Timken Tapered Roller Bearings. The full significance of this fact is that Timkens are used where any bearing won't do—where thrust and shock and speed must be capably handled, as well as radial load and friction! Timken mountings have endurance, simplicity and compactness because only Timken Bearings combine tapered construction, electric steel and POSITIVELY ALIGNED ROLLS. Auburn, Chandler, Chrysler, Diana, Dodge, Erskine, Essex, Franklin, Gardner, Hudson, Hupmobile 6, Jordan, Lincoln, Moon, Overland, Peerless, Pierce-Arrow 80, Star, Stearns-Knight, Studebaker, Stutz, Velie and Willys-Knight are but a few of the great makes which include Timken Tapered Roller Bearings as standard on pinions. THE TIMKEN ROLLER BEARING CO., CANTON, OHIO

THE TIMKEN ROLLER BEARING CO., CANTON, OHIO

TIMKEN Tapered BEARINGS

MOTOR

AGE

VOLUME LII

Philadelphia, Pa., July 21, 1927

NUMBER 3

G.M.C. to Finance Dealer Buildings

Million Dollar Corporation Formed as Subsidiary to Erect Salesrooms

HEADED BY MOTT

DETROIT, July 20—The Argonaut Realty Corp. has been organized under the laws of Delaware and its entire capital stock of \$1,000,000 has been subscribed by the General Motors Corp.

It will be the function of this latest subsidiary of the corporation to acquire sites in various cities and erect service stations and sales rooms for dealers in General Motors passenger cars and trucks. Under the plan the corporation will enter into a lease agreement with the dealer whereby the latter will, after filling certain requirements, agree to lease the property for a period of approximately 10 years.

The board of directors is made up of prominent General Motors Corp. executives, including Donaldson Brown, Fred J. Fisher, Charles S. Mott, John L. Pratt, M. L. Prentis, John J. Raskob and Alfred P. Sloan, Jr.

Mr. Mott has been elected president of the new corporation and other officers are: Donaldson Brown, Fred T. Fisher and J. L. Pratt, vice-presidents; T. S. Merrill, secretary; M. L. Prentis treasurer, Frank Turner, comptroller, and A. Bradley, assistant treasurer.

(Turn to page 12, please)

Dodge Four Prices

DETROIT, July 18—Prices of cars in the new Dodge Brothers four-cylinder line are as follows: De luxe sedan, \$975; sedan, \$875; coupe, \$885; cabriolet roadster, \$955.

Illustrated descriptions of these models were published in the July 14 issue of Motor Age.

Flint Field Man for Velie

MOLINE, ILL., July 20—In the furtherance of its expansion program, Velie Motors Corp. has appointed G. M. Flint as district representative for the Southwest, including the southern portion of California, according to an announcement made last week by L. F. Murphy, general salesmanager of the corporation.

Mr. Flint has been connected with the automobile industry for 16 years in the west coast states.

Window Displays

WHY not have a picture of that good-looking display window of yours taken and send it to MOTOR AGE? We'll be only too glad to print it. And we'll return the photo intact, after it has served our purpose.

In the meantime, while you're waiting for the photographer, look through your files and send along any that have been taken during the past weeks or months.

For your convenience, the address to be placed on the package is, MOTOR AGE, Fifty-sixth and Chestnut Sts., Phila.

Dodge Brothers Net Income Shows Gain

NEW YORK, July 12—Dodge Brothers, Inc., net income, second quarter of 1927, after depreciation, but before income charges and Federal taxes, was \$4,939,074 against \$2,765,103 in the first quarter and \$9,810,875 in the second quarter of 1926.

After all charges and provision for preferred dividends, balance available for both classes of common stock in the second quarter was \$3,475,623 or 82 cents a share, against \$1,545,348 or three cents a share in the preceding quarter.

Earned surplus was increased by \$2,089,721 to a total earned surplus as of June 30 of \$27,661,110 and total surplus of \$49,319,329.

Cleveland Branch Wins

CLEVELAND, July 18—The monthly sales contest of the Paige Detroit Motor Car Co. which was country-wide, shows Cleveland in the lead with eight prize winning salesmen. They are: F. J. Conroy, Sam Ruven, C. A. Ransberger, D. R. Thomas, L. E. Ruven, of the Paige-Ohio Co.; A. C. Gilchrist, of the Rosen Motor Co.; Albert F. Trimmer of Sirl Bros. and Samuel Tailsman of the L. & F. Motor Sales Co.

Cholet With Splitdorf

NEWARK, N. J., July 20—Howard Earle Cholet has been appointed to the field service division of Splitdorf Electrical Co., according to announcement made by L. E. Farine, manager of products service for the company.

Mr. Cholet will travel Southern territory, with Atlanta as headquarters.

Sport Type Bodies for Pierce-Arrow

Sedan Landau and Convertible Coupe New Members of Series 80 Family

HAVE SMART LINES

BUFFALO, N. Y., July 21—Two sport type bodies, one a five-passenger sport sedan landau with crisp, cosmopolitan lines and the other a smart convertible coupe, have just been added to the Series 80 line, according to an announcement made by the Pierce-Arrow Motor Car Co.

In presenting the new five-passenger enclosed car to the public, Pierce-Arrow's designers have followed closely the smooth flowing lines of the smart enclosed cars seen on the Continent. The new car has a low, rakish landau back of leather which blends closely with the lines of the body. Victoria braces add just a smart touch, while in the graceful handling of the molding there is a close resemblance to work of famous overseas custom body builders. The price is \$3,025 f. o. b.

As a companion sport type car, Pierce-Arrow is offering a special convertible coupe which can be changed at a moment's notice from an enclosed car to an open runabout. The rumble seat at the back provides room for two additional passengers. The price of this car is \$3,350 f. o. b.

Profits Increase

NEW YORK, July 20—Net profit of the Gabriel Snubber Mfg. Co. for the quarter ended June 30, after depreciation and Federal taxes, etc., was \$505,-118, the equivalent of \$2.52 a share on the 200,000 shares of no par value of combined Class A and B common stocks. This compares with net profit of \$333,-952 or \$1.66 a share in the preceding quarter and \$356,904 or \$1.78 a share in the same quarter in 1926.

Kennington Transferred

NEW YORK, July 18—W. O. Kennington, formerly managing director of Delco-Remy and Hyatt Ltd., London, who has been in the United States for about five weeks, has been transferred to the staff of the regional director for Europe of the General Motors Export Co. Mr. Kennington will become regional engineer for Europe.

Five Million Nash Net Second Quarter

Profits Close to Last Year With Prospects Good for Increased Business

KENOSHA, WIS., July 18—At a meeting of the directors of the Nash Motors Co. a quarterly dividend of \$1.00 per share and an extra dividend of 50 cents per share was declared on the outstanding common stock of the company, payable Aug. 1, to stockholders of record at the close of business July 20.

The company reported that for the second quarter of its 1927 fiscal year, covering the three months ending May 31, after deducting expenses of manufacturing, depreciation, selling and administration, and providing for local taxes and state and federal taxes, the net income amounted to \$5,566,281.08. This compares with net income for the second quarter of the 1926 fiscal year of \$6,010,826.45. Total net income for the first six months of 1927 fiscal year amounts to \$9,491,735.20 as contrasted to \$10,148,332.61 for the first six months of the previous fiscal year.

With reference to the condition of the company and the outlook for the future, Pres. C. W. Nash expressed himself as feeling very optimistic with regard to the prospects for increased Nash sales and the soundness of business in general. "Among the reasons establishing this optimistic attitude," stated Pres. Nash, "is the remarkable reception accorded our new models."

Haynes Honored

DETROIT, July 18—Frederick J. Haynes, chairman of the board of Dodge Brothers, Inc., has been elected president of the Detroit Board of Commerce. Mr. Haynes has been an active worker in the affairs of the board for a number of years.

Woodard General Manager

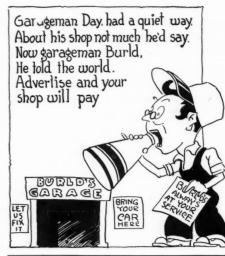
KANSAS CITY, MO., July 21—C. M. Woodard, who for the past six years has been connected in different capacities with the Studebaker corporation's factory organization, has been made general manager and sales manager of the Studebaker Riley Co., Studebaker distributor in this territory.

For the past year Mr. Woodard has been a special representative of the Studebaker organization. Before joining the Studebaker forces Mr. Woodard was with the Detroit branch of the Cadillac Motor Car Co.

Barron Transferred

SPOKANE, WASH., July 20—W. J. Barron, formerly with Dodge Brothers, Inc., in the New York district has been transferred to Seattle, and will be in charge of the northwest district.

Salesology



Chalfant Makes Tour

DETROIT, July 18—E. P. Chalfant, executive vice-president of the National Standard Parts Association, will leave early in August for a six weeks' visit with association members in the Middle West and on the Pacific Coast.

During the trip he will investigate trade and general business conditions and will address a number of meetings of local parts associations and divisions of the N. S. P. A.

His itinerary will include: St. Louis, Kansas City, Denver, Salt Lake City, Sacramento, San Francisco, Stockton, Los Angeles, Portland, Seattle, Vancouver, Calgary, Minneapolis and St. Paul.

Leroy R. Fields

PORTLAND, ORE., July 18—Leroy R. Fields, president of the Fields Motor Car Co. Chevrolet distributor, died suddenly at his home here of heart disease.

Mr. Fields leaves a host of friends among the automotive fraternity throughout the state, and due to his untiring energy had built up one of the largest Chevrolet agencies in the Pacific Northwest. He was formerly president of the Portland Chamber of Commerce.

Hall With Duplex Truck

LANSING, July 18—C. W. Hall, formerly manager of the Lansing branch of the Olds Motor Works, and later with the Reo Motor Car Co., has joined the sales department of the Duplex Truck Co.

Two Join Transport Co.

SPOKANE, WASH.—H. D. Allen, formerly with Wallace Brothers, and H. D. Ranninger, formerly with the Hatch Motor Co., have joined the sales force of Transport Motor Co., Spokane, Wash., distributor of Willys-Knight and Whippet.

Call Car Insurance "Thing of the Past"

Many Cleveland Companies Say Automobile is "Poor Risk"

CLEVELAND, July 21—Insurance people have decided that automobiles are "poor risks," and the majority of concerns represented in Cleveland are refusing to insure them except under specific stipulations that guarantee the machines' safety only when they are standing unused in the barn.

The cause of this developed in Cleveland two weeks ago, when a machine caught fire while speeding down Euclid Avenue and was damaged to the amount of \$250. The company which wrote the insurance was compelled to cancel it, as the home company will not take any more.

Said a member of the firm: "We find that the repair shop people were inclined to hold us up. A man usually wants his machine in a hurry and turns on his gasoline full force. The fuel blazes up and more damage can be done in three minutes to the gearing and trimmings than a blaze of a quarter of an hour will do to a residence.

"It costs \$50 to revarnish an automobile, and the leather trimmings on the average machine represent another \$100. The rate we made was \$25 per thousand, and one experience was enough to convince us that the business was not desirable.

"Auto insurance is a thing of the past except when the machine is standing."—From Motor Age, July 24, 1902, twenty-five years ago.

Cole Visits Dealers

SPOKANE, WASH., July 19—R. S. Cole general salesmanager of the Hupp Motor Car Corp., was a visitor of Pacific Northwest distributors during the past week, calling at Portland, Seattle and Spokane on his annual tour. He was accompanied by H. R. Roberts, Pacific coast factory representative.

Holland K. C. Manager

ROCHESTER, N. Y., July 19—The Kellogg Mfg. Co. announces the appointment of H. O. Holland as manager of the Kansas City territory. Mr. Holland has already assumed his new duties.

Williams Succeeds Berry

KANSAS CITY, MO., July 19—John D. Berry, who has been the sales representative in this territory for the Dodge Brothers Motor Co., has resigned from the organization. W. F. Williams of Chicago has been named to succeed him. Mr. Williams was the district representative of the Graham Brothers organization in Chicago.

Toll Bridge War for Next Congress

Popular Government League Campaign to Have Support of U. S. Road Bureau

WASHINGTON, July 18—Open warfare for the elimination of toll bridges throughout the United States is to be made by various interests at the forthcoming session of Congress. Announcement to this effect was made here this week by the National Popular Government League. The campaign will receive the support of the U. S. Bureau of Public Roads.

The fee system, with rare exceptions, is characterized by the league as "a grabbing enterprise" which costs the motorists of the country millions of dollars annually. Examples are cited where franchises for toll bridges, granted by Congress, have been sold for huge sums by promoters who had no money invested in the enterprises.

Commenting on the forthcoming effort, Thomas H. MacDonald, chief of the Bureau of Public Roads, declared today that, "there is no place on the public road system for privately owned toll bridges, since Congress has provided that the states may build bridges on the Federal highway systems with local funds and Federal aid. The Bureau of Public Roads is not mincing words in stating its antagonistic attitude to toll bridges built under private franchise."

Bugatti Praises Stutz

INDIANAPOLIS, July 20—A. Bugatti, Europe's foremost automobile engineer, whose cars win practically every automobile racing event held on the Continent cabled F. E. Moskovics, president of the Stutz Motor Car Co. of America, from Molshein, Alsace Lorraine, as follows:

"Felicitations belle performance Stutz. Amities."

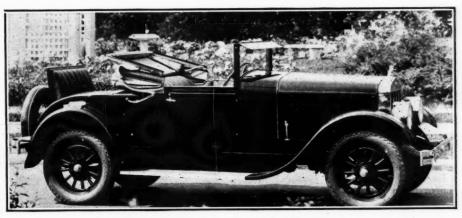
Mr. Bugatti's typical congratulations came as a result of the sensational performances of speed and stability of Safety Stutz cars in American Automobile Association officially conducted contests.

Frederick With Packard

BUFFALO, N. Y., July 18—Albert C. Frederick, for six years with the Willys-Knight selling forces in Buffalo and the winner of three national contests, has resigned to become a member of the Packard sales organization here. He was a member of the Willys-Knight \$100,000 Club.

Joins Bridgeport Brass Co.

BRIDGEPORT, CONN., July 20— The Bridgeport Brass Co. announces the appointment of William S. Kriebel, Jr., of Philadelphia, as salesman of Bridgeport brass products in the



Franklin Convertible Coupe

This is the newest Franklin body model, a convertible 2-4 passenger coupe. The car lists at \$2,925. It is exceptionally well appointed and finished. The top is so designed as to be easily thrown back

Philadelphia territory. He will make his headquarters at the company's Philadelphia office, located in the Bankers Trust Building. He was formerly with the American Brass Co.

New Parts Books

CLINTON, IOWA, July 21—The Climax Engineering Co. has issued a series of 40-page booklets containing parts price lists and operation instructions for their models R6U, R4U, and TU engines and power units.

Each of these books contains detailed lists of parts with illustrations of each part, and complete instructions for the care, operation and adjustment of each engine as well as other pertinent information which might be needed by the user of Climax engines.

Samuel A. Luttrell

WASHINGTON, July 18—Samuel A. Luttrell, pioneer automobile dealer of this city, died this week at his summer home at Easton, Md. He was buried in Arlington National Cemetery.

Mr. Lutterell was 49 years old and came to Washington 30 years ago. He was one of the first dealers in automobiles in the city and had an active part in organizing the Washington Automotive Trade Association.

Campbell Opens Another

CINCINNATI, July 17—Jack Campbell, owner of the Campbell Tire Service Co., 2512-2518 Reading Rd., opened store No. 2 at 2018 Madison Rd. last week.

Campbell, known through his, "We come a-humping" slogan, is the local Cincinnati distributor of Dayton Thoroughbred tires.

Staffy with Baltimore Oakland

BALTIMORE, July 19—J. A. Staffy has been appointed assistant general manager in charge of sales for the Baltimore Oakland Company, Oakland and Pontiac distributor. He has been engaged in automotive sales work for a number of years.

Car Number 250,000

Norwood Chevrolet Reaches Quarter Million Mark

CINCINNATI, July 20—The 250,-000th car to come off the assembly line of the Norwood plant of the Chevrolet Motor Co. was a new Imperial landau sedan, and plant executives gathered to celebrate the incident. R. S. Montgomery, plant manager; C. F. Sawade, plant superintendent; A. F. Young, Chevrolet regional sales manager, with headquarters at the Norwood plant, and George K. Browder, retail sales manager, officiated at the celebration ceremonies.

Both Montgomery and Sawade have been at the Norwood plant since it first began to operate back in 1923. Young recently succeeded W. D. Douglas as regional director.

There are now 1500 men employed at the Norwood plant, three times as many as when the plant started three years ago. Additions have been made to the plant which have increased the output to 12,000 cars a month.

More Cars in Oregon

SALEM, ORE., July 18—Registration of motor vehicles in Oregon for the first six months of 1927 exceeded by 11,059 the registration for the first half of 1926, according to a statement compiled by Secretary of State Kozer.

Balzar Sales Manager

OAKLAND, CAL., July 20—J. F. Balzar has been appointed sales manager for the new Chevrolet sales and service plant.

E. T. Ball Ill

BUFFALO, N. Y., July 18—E. T. Ball, salesmanager for the Joseph Strauss Co., automotive equipment distributor, has been confined to his home by illness for several weeks. Physicians have ordered a complete rest.

Two-Year Mileage Totals 1,250,000

Cadillac and La Salle Test Runs Equal Twice Around World Every 30 Days

DETROIT, July 21-Mileage equal to a trip around the world twice every month is being piled up by Cadillac and La Salle cars at the General Motors proving grounds, Milford, Mich. Nearly 1,250,000 miles of experimental and test runs have been conducted on these two cars by the Cadillac Motor Car Co. during the past two years.

The mileage from July 1, 1925, to July 1, 1927, was 1,215,276. This is equal to 48.6 trips around the world, more than five times the distance to the moon, and is also equal to the average annual mileage of 1215 cars.

These figures were revealed by H. M. Stephens, general salesmanager of the Cadillac Motor Car Co., following the recent test run in which a La Salle car made 951 miles in 599 minutes.

"The purpose of these high-speed tests is not primarily to develop speed but to make a supreme test of durability," Mr. Stephens states. "At the General Motors proving ground there are ideal conditions for high-speed work with every possible factor of chance and hazard eliminated, and we know of no better method to test the engineering perfection of a car than by the use of high speed.

"In addition to the 12 La Salle stock cars which have been continually undergoing tests since they first came from the production line Jan. 14, another six experimental La Salles produced earlier piled up heavy mileage. Five Cadillac cars were each driven distances ranging from 105,000 to 136,000 miles, and the sixth has traveled more than 80,000

Builds for Dealers

(Continued from page 9)

The activities of the corporation will be vested in the hands of two committees. The operating committee will be C. S. Mott, chairman, M. L. Prentice, James MacEvoy and Harry T. Hickie. The finance committee will be Donaldson Brown, chairman, C. S. Mott and M. L. Prentice.

Harry Hickie, Manager

Harry T. Hickie, who has been identified with the sales division of the corporation for some time and who is recognized as one of the outstanding experts on service station and sales room design and construction in the industry, will be general manager of the new corporation. Mr. Hickey's department will have full charge of acquiring sites in the various cities and will also design the buildings which are to be erected. Albert Kahn, of this city, nationally known architect of business buildings, will have supervi-





Olds Appoints Two Branch Managers

Olds Motor Works announces the appointment of J. M. Wilson (left) as manager of the branch at Atlanta, and George Pomeroy (right) as manager of the branch at Washington, D. C.

sion of plans and construction work. GMC Sales Show The corporation already has projected buildings under way in Detroit, Pittsburgh, Kansas City and Boston. It is also building in Chicago, where a subsidiary corporation under the laws of Illinois was incorporated.

Besides providing direct factory branches for the various divisions, the realty corporation will also enter into agreements with distributors and with dealers, after they pass the necessary requirements, and will provide their plants for them.

Chevrolet Motor Co. Creates Seattle Zone

SEATTLE, WASH., July 19-In pursuance of its plan to divide sales regions into more intensive districts, or zones, so as to handle more effectively the fast increasing volume of business in this section, the Chevrolet Motor Co. has created what is known as the Seattle zone, comprising all of Washington except the Walla Walla and southwestern district and the northern Idaho district.

T. F. Hildebrand has been chosen as salesmanager and has named George Reade as his assistant salesmanager.

Record Week for Graham

EVANSVILLE, IND., July 18—Graham Brothers, truck division of Dodge Brothers, Inc., during the week of June 19, delivered 1415 trucks to domestic and Canadian buyers, according to the report of A. E. Cooney, local plant manager. This constitutes a record week, exceeding by many units the corresponding week of any previous year.

36 Per Cent Gain

NEW YORK, July 20-General Motors retail sales in June were 159,701 cars and trucks, compared with 171,364 in May and representing a gain of 36 per cent over the June, 1926, total of 117,176.

Sales by General Motors car division to dealers in June were 155,525 against 173,182 in May and an increase of 39.6 per cent over June, 1926, when 111,380 vehicles were shipped. Six months sales of dealers to users follow:

							1927	1926
Jan.							81,010	53,698
Feb.							102,025	64,971
Mar.							146,275	106,051
Apr.								136,643
May							171,364	141,651
June								117,176
						-	840,481	620,190

Tipper Returns from Europe

NEW YORK, July 15-Harry Tipper, general sales manager of the General Motors Export Co., R. K. Evans, regional director for Europe and Keith Wood, managing director of General Motors International, arrived in New York recently from Europe.

Wade Joins General Export Co.

NEW YORK, July 18-A. M. Wade, formerly advertising manager of the Connecticut Light and Power Co., has joined the advertising division of the General Motors Export Co.

Park Yourself and Wrestle With These

ISN'T it surprising how little we know sometimes about the things we lought to know best? Here we are, in the biggest and greatest industry in the world, and yet many of us are obliged to admit an abysmal ignorance regarding some of the most fundamental, elementary facts about it. It is gratifying to know that executives, salesmen and service mechanics are being inspired by these weekly quizzes to brush up in their information on all phases of the industry. Knowledge of that fact—as well as an admission of our own ignorance of some of the answers before we looked them up—heartens us to believe that we shall not share the fate of the catechists in the Scottish proverb:

"What sent the messengers to hell Was asking what they knew full well."

If you have any pet questions of your own, simple or intricate, please send them along WITH the answers. You will know how you average on this week's examination by comparing your answers with the correct ones in next week's MOTOR AGE. Count ten for each correct answer.

- 1. What automobile used the slogan, "The Universal Car?"
- 2. (a) What do the initials "N.S.P.A." stand for? (b) Who is its president? (c) First vice-president? (d) Executive vice-president? (e) Secretary?
- 3. How many units are there in General Motors Corporation?
- 4. What make of ignition was used in the winning Duesenberg car in the 1927 Indianapolis Speedway Memorial Day Race?
- 5. How can the engine speeds of different cars be compared when the cars are driven at the same road speed?
- 6. What is meant by the compression ratio of an engine?
- How does the average wholesale value of the motor vehicles produced in 1899 compare with that of the motor vehicles produced in 1926.
- 8. What is the ranking of the first ten industries of the United States, based on wholesale value of product?
- 9. (a) Approximately how many square feet of plate glass were used in motor vehicle manufacturing during 1926?
 (b) The foregoing was what percentage of the total plate glass production?
- 10. Approximately how many miles of surfaced roads were there in the United States at the end of 1926?

ANSWERS TO JULY 14 QUESTIONS *

- 1. Chevrolet uses the slogan, "For Economical Transportation."
- (a) The initials "A.E.A." stand for Automotive Equipment Association.
 (b) The president is E. V. Hennecke, Long Island City, N. Y. (c) The vice-president is A. C. Storz, Omaha, Neb. (d) The commissioner is William M. Webster, City Hall Square Building, Chicago, III.
- There are 22 makes of eight-cylinder cars manufactured today in the United States.
- 4. (a) Of the foregoing, 17 are straight Eights. (b) Five are V-type Eights.
- 5. (a) The straight Eights are: Auburn, Chandler, Davis, Diana, Elcar, Gardner, Hupmobile, Jordan, Kissel, Locomobile, Marmon, McFarlan, Packard, Paige, Roamer, Stearns-Knight and Stutz. (b) The V-type Eights are: Cadillac, Cunningham, LaSalle, Lincoln and Peerless.
- Eights are: Cadillac, Cunningham, LaSalle, Lincoln and Peerless.
 6. The maximum piston displacement of the cars which competed in the Indianapolis Speedway Memorial Day Race this year was 911/2 cubic lockes.
- 7. Piston displacement is worked out on the formula D² x .7854 x S x N. In this formula D stands for cylinder bore; S is the stroke; and N the number of cylinders. In other words piston displacement is computed by squaring the cylinder bore, multiplied by .7854, multiplied by the stroke, multiplied by the number of cylinders.
- 8. (a) Motor vehicle production in 1899 was 4,192; in 1926 it was 4,428,286. (b) This was a gain of 105,536%.
- (a) The wholesale value of the motor vehicles produced in 1899 was \$4,428,286; the wholesale value of those produced in 1926 was \$3,163,756,-676.
 (b) This was an increase of 64,605%.
- 10. Approximately 303,000 tons of crude rubber were used in motor vehicles during 1926.
- *These answers are not guaranteed, but have been secured from sources thought to be reliable.

Locomobile Fitted With Spiked Tire

Perfect Non-Skid Quality is Claimed for Invention of Arvid Enlind

BRIDGEPORT, CONN., July 18—Some interesting tests were made by the Locomobile people the other day of a non-slipping tire, the invention of Dr. K. Arvid Enlind. The rear wheels of the Locomobile were fitted with a pair of these tires and a 30-foot incline of smooth ice blocks was built with a 36 per cent incline, up which the non-slipping-tire-fitted vehicle mounted with ease. Patent for this invention was granted June 24.

The MOTOR AGE man was shown a photograph of the vehicle ascending the incline during the test. Some further tests on slippery macadam and inclines will shortly be made in New York city.

The Enlind non-slipping tires are the same as ordinary tires except that between the layers of fabric is inserted a plate. In a part of that plate is a threaded socket, which extends from the periphery of the tire to the plate. Into this threaded socket spurs of steel are inserted from one-eighth of an inch to one inch in length.

The latter spurs are used in riding on ice, quarter-inch spurs being used for slippery macadam and road riding. When the spurs are not in use ordinary screws to fit the aperture are inserted to keep out the dirt.—From Motor Age, July 19, 1900, 27 years ago.

Seventeen Dealers

Try Windsor Plan

DULUTH, MINN., July 19—Seventeen automobile dealers have adopted the Windsor plan for selling used cars and the price chart is being printed in a local daily paper. The plan has already been indorsed by the Minnesota Motor Trades Association.

Will Redeem Preferred

DETROIT, July 18—Motor Wheel Corp. will redeem all outstanding preferred stock Aug. 15, the directors have decided. Letters have been sent to all preferred stockholders instructing them to forward their certificates to the American State Savings bank in Lansing, or to the National City Bank, 55 Wall Street, New York.

The stock should be forwarded anytime between Aug. 1 and Aug. 15 for redemption at \$115 a share.

Stewart Succeeds Walsh BUFFALO, N. Y., July 20—L. I. Stewart has been appointed zone sales manager by the Chevrolet Motor Co., with headquarters in this city. He succeeds H. J. Walsh, who was recently transferred to be manager of the Boston zone.

Commercial Trust Buys Chicago Corp.

Called First Step In Promised Low Finance Plan for All Hudson-Essex Dealers

NEW YORK, July 21-The Commercial Investment Trust Corp., one of the largest organizations of its kind in the country, has acquired through purchase the business of the Chicago Acceptance Corp. of Chicago which operated in the finance field in Illinois, Indiana, Wisconsin and Minnesota. Total assets of approximately \$4,000,-000, of the Chicago corporation have been transferred to Commercial Investment Trust Corp. which takes over the outstanding business and good-will of the Chicago company. The business of the Chicago corporation will be carried on through the Chicago subsidiary of the Commercial Investment Trust Corp.

The Chicago Acceptance Corporation was organized some years ago by the Hudson distributors at Chicago and Minneapolis to finance sales of Hudson and Essex automobiles exclusively and this absorption by Commercial Investment Trust Corp. follows closely the announcement made recently by the Hudson Motor Car Co. of Detroit of a nation-wide contract with Commercial Investment Trust Corp. to extend low finance rates to Hudson and Essex dealers throughout the United States.

Dictator in Two Colors

SOUTH BEND, IND., July 20—Two attractive color combinations are available on the Studebaker Dictator Victoria, according to a recent factory announcement. One is a combination of deep Kinick green, Tuchi gray and lustrous black. The other is a blending of Hopi drab and Croatan green.

Detroit Gets Airplane Parts
DETROIT, July 18—The Detroit
board of education has accepted \$20,000 worth of obsolete airplane parts
and four motors from the United
States Navy. The material will be
used in the projected course in aeronauties in one of the city schools.

Luko Co. Sells Building

HARTFORD, CONN., July 18—The Standard Auto Top Co. has taken over the sales and service building formerly occupied by the Luko Motor Co. The latter concern which, was an associate dealer for Chevrolet, has retired from the sales field.

Purchase Dresslar-White Co.

NASHVILLE, July 19—The Dresslar-White Co., former authorized Ford dealer of Nashville has been purchased by the Hippodrome Motor Co. and the George Cole Motor Co.

Jest—A Bit Cynical

By S. G. SWIFT

J. V. LUCAS, Chicago, writes that recently an armored truck drove into his garage for a minor adjustment. It contained a big payroll for a local mill. "That was once when there was money in a garage," says Lucas. (How about an occasional fast one from the rest of you fellows? Send 'em along.)

Success is not a matter of chance and while we may think that it does not always come to those apparently the most qualified to receive it, it usually lands in the right place. The best mechanic, I know anything about is usually as idle as a barber in the House of David. Nobody goes to his shop more than once. His competitor, who does only mediocre work, is as busy as a lipstick in Hollywood, to continue with the similes. That sounds a bit odd but it isn't because the first man is surly and disagreeable; the other is courteous. He has the good sense to make use of the most priceless—and the cheapest—commodity that can be handled by any automotive establishment. When visitors call at our homes they are treated with courtesy. When they call at our stores or shops—our business homes—the same high grade of politeness should be shown them. A little of the oil of human kindness is a great business getter, and a stock of courtesy pays big dividends. (Pardon me for pointing).

FLAT RATES, according to a dealer who writes that he has tried them "for a couple of months" are no good. Which reminds me of a chap down home known as Tired Tim. Tim once said—or is supposed to have said—that in his experience the talk of the benefits to be gained from bathing in famous springs was the bunk. "I bathed in the spring they had the World's Fair and it never done me no good," said Tim.

I AM more than passingly interested in the announcement that Detroit dealers, have decided that, "stores selling new cars shall be closed on Sunday." I certainly hope that Mr. Ford's reasons for a five day week haven't been too seriously considered. A seven day week is about one day too long, just as a five day week is one day too short. A Providence, R. I. dealer who closed his place of business Saturday afternoons last summer, stood across the street and counted the prospective purchasers who tried to get into his store to do some prospective purchasing. At two o'clock he frothed at the mouth, at three thirty to the minute he fell in a faint, at five he went to the ten cent store, purchased a dime's worth of rope and at six sharp, went up into his attic and hanged himself. The last part of the sentence is merely my idea of a joke; actually this man counted 97 persons who tried his door, turned away and presumably did their purchasing elsewhere. And as most of them worked during the week and had only Saturday afternoons in which to shop he wisely decided to stay open Saturday afternoons. Six days a week is not long for anyone to work—except editors.

NOT having been born with a caul I have no way of forecasting just how this paragraph will register with the average reader. It is a boost for good equipment and concerns a successful coal merchant who delivered to my home an emergency half-ton of coal for the laundry stove. The coal set me back \$7.50 and it was brought to me by an outfit that cost the dealer \$2,200. But it was delivered into the cellar in exactly three and one-half minutes by the watch; and the merchant, as I said, is successful.

If there is any one man in public life that I admire more than another and for whom my admiration is based on something more tangible than mere hero worship, that man is Secretary Hoover. He has always a way of finishing what he starts that compels my none too reluctant homage. His latest work, the calling together of a committe to study into the traffic situation with a view to standardizing road rules should be of benefit to humanity; to that part of it that sells automobiles, especially, because once there are universal traffic laws, we shall sell hundreds of thousands of cars to timid souls who do not now care to subject themselves to the bawlings out consequent on breaking a law in one-city by doing the thing that was legal in another. Speed the day when a left hand turn in the deserted streets of a Kokokus, will also be a left hand turn in the busy traffic of a De Russey's Lane.

AND while he's at it, perhaps the secretary can do something about women drivers. I find that at the present time there is a closed season on them in nearly every state. I mean that it is against the law to shoot them.

Falcon-Knight Sales Are Heavy

5350 Knight Sixes Sold Since Introduction of New Car Three Months Ago

DETROIT, MICH., July 18-Sales of Falcon-Knight motor cars built by the Falcon Motors Corporation of this city and Elyria, Ohio, totaled 5350 for the first three months in which this new manufacturer has been in the market, according to a statement just given out by John A. Nichols, Jr., president.

June sales totaled 1924 and were 10 per cent in excess of those for May despite the general slowing up in retail sales in the industry as a whole.

The total valuation of the sales of Falcon-Knight cars to date is \$5,430,-250, and retail sales are progressing satisfactorily as the dealer organization is being built up.

Export deliveries total slightly more than 400 and sales presentation in the leading foreign countries is progressing at a satisfactory rate.

The Falcon-Knight was first shown to a limited number of motor car dealers in January and deliveries started in April of this year.

159 Miles in 152 Minutes

PEORIA, ILL., July 20-Rollen Travis, head of the Travis Cadillac Co., drove a stock LaSalle roadster, fully equipped, from Chicago to Peoria, a distance of 159 miles in 152 minutes, official running time, last week. It set a record for travel between the two cities and was made in interest of the development of a superhighway between Chicago and the downstate center. The last 50 miles were made in 39 minutes.

Passenger cars, and not trucks, were the greatest hindrance on the trip, which Travis said could have been made in 10 minutes less if passing cars had more strictly observed the rules of the road.

Economy Buys Garage

ROCK ISLAND, ILL., July 19—H. L. Millett and W. N. Anderson, proprietors of the Economy Motor Sales Co., Chevrolet car and truck dealers have purchased from R. P. Galbraith, owner of the Galbraith Motor Co., 1720 Fourth Ave., the garage building at that site. The purchase price was \$75,-

Carolina Motors Incorporates

COLUMBIA, S. C., July 19—The Carolina Motors Co. of Greenville has been granted a charter to operate as a car dealer. The capital stock is \$100,-000. J. T. Mason is president and treasurer and J. D. M. Smith is vicepresident and secretary of the company.

Jordan Ubiquiting and Bilocationing

BOSTON, July 18-Edward S. Jordan is back on the cir-

The ubiquitous president of the Jordan Motor Company was host to the dealers handling his line throughout New England at a luncheon at the Copley Plaza hotel last week. All the new England states were represented.

He complimented the dealers on the fine total of sales they were making here, and said their orders had much to do with helping the company create new records for production in May and June this

It is expected that during his present activities among dealers throughout the country, his movements will again call into question the impossibility of bilocation.

The following key to the foregoing paragraphs is furnished for the benefit of those living outside Boston:

Ubiquitous-existing or being everywhere at the same time.

Bilocation—state or power of being in two locations at the same time.

Brings Road to Car

SOUTH BEND, IND., July 19-For minute studies of performance under varied loads and speeds, research engineers of The Studebaker Corp. have developed a chassis dynamometer on which it is possible to duplicate hills of any grade, rough road conditions, and speeds up to 120 miles an hour. The dynamometer is virtually an automobile treadmill, all four wheels of the car resting on rollers.

Takes on Gustin Line

OKLAHOMA CITY, OKLA., July 20-The Ray Neel Tire and Service Co. has been made state agents for the Gustin Co., St. Louis. The firm also handles India tires.

Wick Bros. Let Contract

JACKSON, O., July 17-Wick Bros. have awarded the contract for the erection of a fireproof garage 86 by 50 feet and two stories high to be erected in the rear of the Gibson Hotel.

Whalen Leaves for London DETROIT, July 18-W. T. Whalen, general manager of the General Motors Export Co., left New York, July 13, on the steamship George Washington for London.

George Marlette **AEA Zone Head**

GaMeDa Names Well Known Merchandising Man for Southeastern Post

CHICAGO, July 19-George S. Marlette, until recently assistant director of sales of the General Equipment Corp. of Kalamazoo, has been appointed zone manager of the A. E. A. Greater Market Development, for the south-eastern states. Mr. Marlette assumed his new duties on July 10.

Following the war Mr. Marlette entered the accessory and equipment field as salesman for the Manley Manufacturing Co., of York, Pa., covering the southwest and middle west territory. Later he joined the organization of Straus-Frank Co., San Antonio, Texas jobber, as manager of the shop While with equipment department. this company Mr. Marlette was instrumental in putting out the first truck ever used for selling and demonstrating shop equipment.

From the jobber field, Mr. Marlette entered the manufacturing end of the trade, joining the General Corp., first as district sales manager in the southwest and later as assistant director of sales.

Georgia Sets Record

ATLANTA, July 19-With total collections for the first six months of this year by the Georgia Motor Vehicle Department exceeding the total collections for the whole of any previous year, 1927 has already established a record in Georgia in motor car registration, the previous best year having been 1926.

It is interesting to note that the registration of lower-priced cars this year has been unusually heavy due to the remarkable sales record the Chevrolet has made in the Georgia district.

Hill-Reed Incorporated

CARTHAGE, N. C., July 19-The Hill-Reed Chevrolet Co., local Chevrolet dealer, has been incorporated with an authorized capital stock of \$50,000 of which \$6,000 has been subscribed by L. P. Wilkins, Sanford; H. M. Hill and W. P. Reed, all of this city.

Takes on Prest-O-Lite

LOUISVILLE, July 20-R. D. Heman Co., 943 South Third Street, has been appointed distributor of Prest-O-Lite batteries in this territory by the Prest-O-Lite Storage Battery Sales Corp. of Indianapolis, Ind.

New Quarters for Marshall

FLINT, July 19-The Marshall Auto Co., oldest Nash dealers in Michigan, have moved into remodeled quarters at 1303 N. Saginaw Street.

Custom Sedan Added by Moon

Newest Member Called Ace of Company's Light Sixes is Priced at \$1,395

ST. LOUIS, July 11-As a notable addition to its recently announced line of sixes and eights, the Moon Motor Car Co. announces the five-passenger, Moon Six-Sixty custom-built four-door sedan, priced at \$1,395. This sedan is finished in a desert sand color over hood, cowl, body, top and upper structure, including the smooth metal back. Fenders and dust aprons are the same color. Windows are edged with Apache red. Upper and lower body moldings are finished in maroon and are set off by a bright red pin stripe, the lower molding being carried from the radiator, along the hood and body and completely around the back body panel. The upper molding also runs entirely around the body and over cowl, following the line where the super-structure meets the body. Drip moldings are in black enamel.

A feature of this new car is the snappy, cadet-visor type of sunshade which is also finished in a desert sand color. Headlamps and cowl lamps of the bullet type are finished in the body color and have heavy nickeled rims and Para-Beam lens.

Upholstered in Broadcloth

This sedan is upholstered in a twotoned effect, seat cushions and backs being of delicately figured broadcloth with side panels, doors, overhead and back in a soft-toned, plain broadcloth.

Interior fitments include a heavy silk robe rail, dome light, silk assist cord, a purse-effect pocket in each of the four doors; and silk curtains at rear and rear quarter windows. Hardware is of a plain, silver finish.

A featured mechanism of the sedan is the patented, "one-hand," swing-type windshield which is operated by a regulator handle located in the center of the cowl bar and within easy reach of the driver's right hand.

Like all Moon Six-Sixty cars, this sedan is mounted on a 110-in, wheelbase chassis.

Patti and Conover Join White Manufacturing Co.

SIOUX CITY, IOWA, July 20-The Julian M. White Mfg. Co., announce that Nick Patti, formerly associated with Freed-Eismann, has been made director of sales and Lee Conover, formerly director of sales for the Garod Radio Co., has been appointed eastern representative. The company manufactures White socket power units.

Blake Bus Line Manager

Detroit, has been elected vice-president will be carried.



Moon Custom Built Sedan

This custom built Six-Sixty sedan lists at \$1,395. It is mounted on the 110 in. wheelbase chassis. Finish is desert sand, striped with red and maroon.

A feature of the new car is a cadet-visor type of sunshade

and general manager of the Motor Transit Management Co., of Minneapolis and Foster G. Beamsley, of Duluth, has been chosen secretary-treasurer. The company operates the Oriole lines from Chicago to Detroit, the Safety Motor Coach lines between Chicago and Grand Rapids and the Purple Swan lines from Chicago to St. Louis and Kansas City, Mo.

\$21,000,000 for Roads

SPOKANE, WASH., July 21-Washington leads the western states in contemplated highways construction this year, with 385 miles of new motor thoroughfare planned. During 1927 and 1928 road work in this state will represent an expenditure in excess of \$21,-

Stephen A. Douglas

DETROIT, July 18-Stephen A. He Knows How to Sell Douglas, 63 years old, Michigan representative of the Globe Machine & Stamping Co., died July 6 in a Detroit hospital. Mr. Douglas was a pioneer in the automotive industry and had an extensive acquaintance among executives.

Kent Goes With Browne

MILWAUKEE, July 19-John W. Kent, for 10 years with the Jonas Cadillac Co., has resigned to become associated with George W. Browne, Inc., Chrysler distributor. Mr. Kent ranked as one of the most successful salesmen in the local Cadillac merchandising organization, several important awards in sales competitions during recent years.

Opens Coast Office

BALTIMORE, July 20-In order to take care of its greatly increased business in the far West, the G-H Manufacturing Co., Inc., has established a branch at 677 Folsom St., San Fran-DETROIT, July 20-E. A. Blake of cisco, where a full stock of all products

Bay State Checks Insurance Dodgers

BOSTON, July 19-Massachusetts motor vehicle inspectors have now started a campaign against Bay State owners of cars and trucks who are registering their cars in other neighboring States to dodge the Compulsory Insurance law. The first drive was made near the Rhode Island line yesterday when 16 residents operating under Rhode Island plates, but living across the line in Massachusetts were served with summones to appear in court next week for not obeying the law. Other inspectors are about to make a check-up on the borders of New Hampshire, Vermont, New York and Connecticut.

Car to Society Woman

SPOKANE, WASH., July 19-R. M. Logsdon of the sales staff of Wallace Brothers, Studebaker-Erskine distributor, has won the first prize of \$100 cash in a nation-wide essay writing contest put on by the factory sales division. The title of the contest was, "How to Sell a Society Woman an Erskine Coupe."

Takes on Houdaille

BUFFALO, N. Y., July 19-Houde Engineering Corp. announces the appointment of the Albany Motor Specialty Corp, as distributor for Houdaille hydraulic double-acting shock absorbers and Scully spring protectors for the Hudson River Valley Territory.

R. E. Lee Reelected

ST. LOUIS, July 21-Robert E. Lee, for 20 years manager of the local automobile dealers' association, has been reelected president of the St. Louis Safety Council.



By SAM U. L. SPARKS

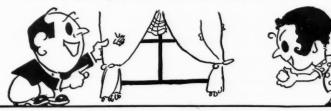
MAYBE it wouldn't be out order to say that everything which is printed in this here column, I stand back of it. I read it myself, and if anything uncomplimentary should be wrote about certain tribes or sects, sometimes called bus salesmen, don't expect me to come out a coupla years later with a apology and tell you, after all the low-down things which was said, that I didn't know what the editor was printing in the paper.

Anybody which is in the automobile business had ought to know that a prospect list which is one of them "Off again, on again, Finnegan" lists ain't going to be a list of hot prospects, unless they are maybe hot under the collar.

Every once and a while I am ast the question, do I handle all prospects alike, and I answered, did you ever go fishing?

If you want to catch a trout you maybe use a hook with a red feather on it, but if you should want to catch a bass, why that is a feather of another color.

Salesmanship begins at home and when your bitter half says, "George, we simply must have some new curtains for the living-room," you had ought to say, "Why Gwendolyn, didn't you know that the curtains which we have is Turkish Fez which is getting to be a scarce and valuable article?"



Gwendolyn will no doubt remark, "Really, George?" and you will wonder is she taking the bait or is she maybe only laughing up her sleeveless kimona, but don't let that phase you. Just come back with one like this:

"I heard Mrs. Honeywell remark to Mrs. Goldbrick the other day that she had shopped all over town to get a pair of curtains like yours."

If you get away with it you save forty or fifty smackers, and you are some salesman.

I mind the time I sent Ossie Osgood, which he hired out to me under the false pretenses that he was a salesman, to sell a car to Mrs. Stonehammer, which she is the wife of one of our big bankers here in Sparks Corners.

Ossie comes back and says old man Stonehammer has got a car.

"So's your old man," says I, "but Stonehammer's wife ain't got one."

Well, if you want a thing done right you ought to do it yourself, thinks I. So I ast Mrs. Sparks, my helpmeet, to get busy and she invites this dame to ride down to the Ladies' Aid meeting with her in a Halfpast Six roadster. And a coupla days later out to the Country Club.

One of my rules of salesmanship is to let the prospect do some of the talking, and my bitter half ain't exactly a dumb-bell herself, so she waits for Mrs. Stonehammer to do some talking.

"It's really quite considerate of Mr. Sparks to leave his car at home for you," says the dame.



"Men ain't like that," or words to that effect is the come-back of Mrs. Sparks. "I have my car and Sam has his. And, do you know, so many of the women are driving their own cars—there's Mrs. So-and So and Mrs. Et Cetera, and I could name you a dozen more. It really does seem a shame that Mr. Stone-hammer should take his car down to the bank and leave it parked there all day when you could make such good use of it. But don't hesitate to ask me any time you want me to drive you places."

Well, a coupla days later old Stonehammer calls me up on the phone and tells me to drive one of them Halfpast Six roadsters out to the house and come in

or my check.

Do I take credit for that sale? Well I delivered the car, didn't I?

Lubricant Faker Draws Sentence

Yonkers Man One of Several Prosecuted in Drive of Fair Trade Group

NEW YORK, July 19—Through the sentencing of an automobile service station manager by the city court of Yonkers, it became known today that the district attorney of Westchester County, New York's wealthiest suburb, has joined the public prosecutors of New York City and Long Island in a general effort to protect the motorists of the metropolitan district against frauds in the sale of automobile oils.

Representatives of the American Fair Trade Association, which is collecting evidence against dishonest oil dealers and standing as complainant in these suits, said that the Yonkers case is the first of several in Westchester County, and that warrants have been served also upon proprietors and managers of oil service stations in Mamaroneck, Tuckahoe, Pelham and Larchmont. The association's drive in Westchester County is part of a national campaign which has already resulted in the fining and imprisonment of a number of dealers in New York City and Long Island; and arrests in Boston, Mass., and Providence, R. I. Warrants have been issued in several other cities on the Atlantic seaboard and investigations are now in progress in certain cities in the Middle West.

These investigations indicate, according to Edmond A. Whittier, secretary-treasurer of the association, that practice of fraudulent substitution in the sale of motor lubricants is being carried on all over the country.

Knoble Made Assistant Advertising Manager

DETROIT, July 19—The Chrysler Corp. announces that Clifford Knoble has been made assistant advertising manager. He has already assumed his new duties.

Orders 1928 Tags

DOVER, DEL., July 19—The Board of State Supplies of Delaware has awarded to the National Colortype Co. of Bellevue, Ky., the contract for furnishing the state with 1928 automobile tags. The color adopted is white background with black letters and figures.

Brace at Lake Geneva

KANSAS CITY, Mo., July 21—W. J. Brace, president of the Hudson-Brace Motor Co., Hudson and Essex distributor here, is spending the hot days with his family at his summer home at Lake Geneva, Mich. Mr. Brace is a former president of the National Motor Car Dealers Association.

100,000 Mile Car Adds 21,000 More

Record Oakland Receives Big Welcome at Finish of Successful Run

PONTIAC, MICH., July 18—Exactly five months after the 100,000-mile Oakland sedan left the Oakland factories at Pontiac, Mich., it returned from a grueling road trip of more than 21,000 additional miles through 37 states and 500 cities and towns in the United States besides trips into Mexico and

Thousands of employees joined the mayor of Pontiac and the executives of the Oakland Motor Car Co. in a ceremony of welcome at the main office building as the car drove up to the plant at the finish of the trip.

The car was first run on a treadmill for 100,000 miles in the showroom of the Richards-Oakland Co., Detroit, and then was sent on a great swing throughout the country, the route resembling a gigantic figure eight. The eastern loop was made first and then the west-When the Oakland had reached Chicago on the home swing, it was decided to make still another loop of 5000 miles, which kept the car in the southeast for an additional month.

The car was met with bands and participated in parades in nearly every city of any size in the United States.

Servel Resumes

EVANSVILLE, IND., July 19-After a week's recess for annual inventory the local plant of the Servel Manufacturing Co., builder of commercial car bodies, has resumed normal production. Fred P. Nehrbas, vice-president and general manager, states that the commercial body building department with 300 men on the payroll is producing about 100 bodies a day. Production is largely concentrated on Chevrolet truck bodies.

Form Houston Moon Co.

HOUSTON, TEXAS, July 20-The Houston Moon Co., Bell and San Jacinto Sts., has been organized here for the purpose of distributing that line of cars in Houston and territory. Charles Paggi is head of the company and J. H. Hobart is sales-manager.

Takes on Auburn

BIRMINGHAM, ALA., July 19-Southern Motors, Inc., has been named Alabama distributor of the Auburn

New Prices

on Erskine 6

NEW YORK, July 18-Announcement of new Erskine prices ranging from \$895 to \$965, effective July 13, was made by A. R. Erskine, president of the Studebaker Corp., just before his departure to Europe.

Erskine Six Business Coupe.....\$895 Erskine Six Custom Coupe.....\$965 Erskine Six Custom Sedan \$965

automobile, according to a recent announcement. The showrooms of the company are located at 614 South Twenty-fourth Street and the complete line is already on display. A large service department adjoins the show-

N. A. D. A. Asks Dealers to Work for Tax Repeal

CHICAGO, July 17-Announcement has been made that the House Ways and Means Committee will meet October 31 and for 10 days will consider suggestions concerning revenue legislation to be presented to the Congress convening in December.

The National Automobile Dealers Association, as usual, will seek a hearing before the Congress in behalf of automotive tax removal and requests that individual dealers and local dealer association committees start working with their Congressmen immediately.

Appoints Toledo Dealer

ST. LOUIS, July 18-Appointment of the Bondy Motor Sales Company, 1717 Adams street as the new Moon and Diana dealer is announced by E. M. Todd, district sales manager of the Moon Motor Car Co. Perry E. Bondy, head of the company, is one of the most successful and widely known automobile merchandisers in Toledo, having had many years of experience handling a number of well known lines. Recently he was the Toledo dealer for the Star line.

Found Gastonia Chevrolet

GASTONIA, N. C., July 19-The Gastonia Chevrolet Co., local Chevrolet dealer, has been chartered with a capital stock of \$100,000, of which \$15,000 has been subscribed. Y. D. Moore, Jr., P. H. Spurrier and R. G. Cherry of Gastonia are the incorporators.

Ratify Goodyear Settlement Terms

Factional Litigation Ended at Annual Meeting of Stockholders

AKRON, July 19-Stockholders of the Goodyear Tire & Rubber Co., convened for the annual meeting, formally ratified terms of the settlement previously agreed upon, which ends all factional litigation and provides for refinancing the company.

Goodyear attorneys appeared the day following the meeting before Com-mon Pleas Judge S. D. Kenfield, who issued a court order dismissing from the records the various suits involving

control of the company.

Principal proposals approved by stockholders were: Increase of directors from 15 to 17 and election of the 17 for a three-year term; re-election of President Paul W. Litchfield for three years; creation and sale of \$60,000,-000 worth of five per cent first mortgage bonds to mature May 1, 1957; issuance of 1,000,000 shares of new no par preferred stock to be offered in exchange for present \$100 par preferred in a ratio of five shares of new for each four of old. This takes care of the \$25 in accrued dividends on the 7 per cent stock.

An executive committee, consisting of the following, also was elected; P. W. Litchfield, Francis Seiberling, E. B. Green, S. L. Smith, John Sherwin, G. A. Tomlinson and Walter B. Mo-

Of the 17 directors, eight are said to represent Goodyear banking interests, five, the common stockholders, and four, independent interests.

.Race Track Flops

WASHINGTON, July 20-The Baltimore-Washington Automobile Speedway at Laurel, Md., midway between Washington and Baltimore, has proven a financial "flop" and was ordered this week to be sold to the highest bidder. The track, built of lumber, was declared to be one of the fastest in the world. It will be sold tomorrow. Investors in the venture will lose approximately \$450,000.

10,890 New Members

LONDON, July 16-The Automobile Association, at the last monthly meeting of the Executive Committee, elected 10,890 new members.

Your favorite jobber salesman deserves to win a part of the \$2,075.00 in cash to be awarded in the MOTOR WORLD WHOLESALE jobber salesmen's popularity contest. In another part of this issue is a voting coupon. Fill it in and send it promptly to the contest editor of MOTOR WORLD WHOLESALE.

Reclaim Co. Sales Gain 55 Per Cent

AKRON, July 18-At a meeting of the board of directors of the Akron Rubber Reclaiming Co., B. O. Etling, president, announced that sales for the first five months of 1927 totaled \$636,-803, a 55 per cent increase over 1926, with a net profit of \$83,972.25.

Payment of a regular quarterly \$2.00 dividend was declared on the preferred stock, payable July 1. A dividend of \$.50 per share was declared likewise on the common stock of the company, payable July 15 to all common stockholders of record July 5. The company has no bank indebtedness.

The board of directors authorized listing of the company's shares on the Cleveland stock exchange as a convenience to investors in the Cleveland-Akron district.

To care for rapidly increasing business, the board of directors authorized equipment purchases which will enable the Barberton plant to produce 30 tons of reclaims a day.

Diffley Motor Co. Head SEATTLE, WASH., July 19 -Thomas Diffley now heads the Diffley Motor Co. of Everett, Wash., and will handle the Falcon-Knight in that territory. C. B. Sauve of the Sauve Motor Co. of Aberdeen, Wash., has been named Falcon-Knight dealer in the Grays Harbor territory.

Graham Wins Trophy fourth monthly tournament of the Port-

Cut It Out!

IN a spare moment you will find it mighty easy to cut the salesman's popularity voting coupon from another page in this issue, fill it out and send it to the contest editor of MOTOR WORLD WHOLESALE. Don't miss an opportunity to help your favorite jobber salesman to win a goodly part of the \$2,075.00 in cash to be awarded 27 of the country's most popular and effi-cient salesmen. Send coupons promptly.

land Automobile Dealers Association was held at the Tualatin Country Club. E. E. Cohen of the Oldsmobile, was the chairman of the June tournament. B. Graham, Dodge distributor, won the trophy.

Senior 6 Coupe Added By Dodge Brothers, Inc.

DETROIT, July 19-A four-passenger coupe on the Senior Six chassis is being introduced by Dodge Brothers, Inc., to list at \$1,570. This is the third Senior Six model thus far placed in production, a five-passenger sedan and a four-passenger cabriolet road-ster, both priced at \$1,595, having preceded it.

Joins Browder-Hoskins

LOUISVILLE, July 19-Wilson Summers, Jr., has joined the sales staff of PORTLAND, ORE., July 18-The Browder-Hoskins Co., 12th and Broadway, Chevrolet distributors.

Rear View Mirror May Come Into Use

LONDON, July 18-In its report of the late Liverpool trials the Automobile Journal offers the following suggestion:

"It is very difficult for the driver to see behind him when his load is of any size, and it is almost impossible for him to hear any other vehicle which may be overtaking him.

"These wagons take up a good deal of room, and it is often wise for the driver to pick his way when right out in the country on an indifferent road.

"Under such conditions delay is likely to be caused to the faster-moving traffic, and any such inconvenience can only be avoided by enabling the driver to see behind him.

"Something in the way of a mirror, placed in some convenient position outside the wagon, would apparently meet the difficulty. It is a device which has frequently been resorted to with success for similar purposes, and is at any rate worth consideration."-From Mo-TOR AGE, July 18, 1901, twenty-six years

Reardon Organizes Company

PEORIA, ILL., July 19-The Reardon Manufacturing Co. has been organized here by William L. Reardon, George J. Jochem, and H. C. Potthoff, with capital stock of \$25,000. The company will manufacture automotive equipment and machinery at 218 Fishgate St.

John Cleary Says—

- I Final instructions were given and the new salesman started out on his first trib.
- I "Good luck to you," said the boss, "wire us important news."
- I The following day this telegram was received from the
- The "Reached here safely. Good room with bath. Feeling fine." The boss wired back:
- I "So glad. Love and kisses. Good-bye."
- And yet they say there is no sentiment in business.



Breaks Ground for Yellow Truck Company's New Building

Paul W. Seiler, president of the Yellow Truck & Coach Mfg. Co., turns the first shovelful of ground preparatory to the erection of the company's mammoth new \$8,000,000 plint at Pontiac. The ceremony was witnessed by a party of executives of the company and 100 representative citizens of Pontiac

Chevrolet Test Car Still Good After 46.150 Miles

MILFORD, MICH., July 18-After withstanding the withering strain of 46,150 miles in four and one half months over various types of roads and a wide range of driving conditions, Chevrolet test car number 112 has been retired from the General Motors Proving Ground service.

Forty miles out of Detroit in the hills and vales of Livingston County, where the great outdoor automobile laboratory is located, this Chevrolet, taken out of regular production at the Flint plant underwent supreme tests in the cause of improved automotive transportation.

It was kept on test for 135 days, "working" on an average of 341.8 miles a day. There were days when it was driven more than 500 miles in order to try its stamina. In addition to the test work at the Proving Ground, the car carried mail to Detroit and return each day, permitting of a study and check of the car under actual road traffic conditions.

Oakland Dealers Meet

LOS ANGELES, July 19-Better merchandising methods formed the main theme of discussions at a twoday convention of all Oakland-Pontiac dealers and associate dealers in the Southern California district, held in Los Angeles under auspices of Reeve Gartzmann, Inc., distributor. The principal speakers were Waldo E. Fellows, director of advertising, and E. W. Lyons, special service representative, both of the Oakland factory.

Clark Opens New Building

DUBUQUE, IOWA, July 20-The Clark Motor Co. last week opened its new

sales and service station at 87 South Dead Engine Cause of Main St. Wade Clark, who has been associated with the Willys-Knight and Whippet line for seven years, is manager of the business. A complete line of the new models of both cars was on exhibition.

Oakland District Men **Hold Sales Convention**

OKLAHOMA CITY, July 19-A sales convention of the district salesmen of the Oakland Motor Co., was held June 24 and 25. More than 100 salesmen from Oklahoma, Arkansas, New Mexico and Texas, were in attendance.

\$75 Saved on a \$2 Investment

AGARAGE in Ranger, Texas, recently got an overhaul job on a Buick and the corner was to call the next morning to get the cost estimate. The owner of the garage worked this out at night to have it ready, and in the morning he got his Chilton Rapid Flat Rate Price List out of the post office and promptly got busy and reestimated the whole operation. He found that the manual saved him \$75!

He took the manual and showed the owner each listed operation, labor and material.

"Fair enough," said the vner, "go ahead with the owner, work.

\$75 saved on the first job! And on a \$2 investment! !

Continental Plane Crash

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DETROIT, July 18—Persons who were slightly injured when the Continental Motor Corporation's threemotored Fokker airplane was wrecked in making a landing at Grand Rapids, have been discharged from the hospital.

According to Rose W. Judson, president of the company, who was a passenger in the plane which was on a trip from Muskegon to Detroit, one of the motors "died" before the party neared Grand Rapids, and, when the pilot noticed there was no oil pressure, he decided to land at the Grand Rapids airport.

Mr. Judson said that after the wheels of the plane struck piles of concealed dirt, tearing away the landing gear, that the big plane turned slowly over. He said the injuries of various members of the party were of a slight nature.

Will Junk Planes

WASHINGTON, July 20-The junking of all training types of airplanes in the Army Air Corps between now and Sept. 1, has been announced by the War Department to prevent further air casualties in the army. On September 1, the Department states, all "JN" training types of planes will be junked regardless of their condition. During the past fiscal year 150 of these planes were salvaged.

Kansas City Branch Wins

KANSAS CITY, Mo., July 19—C. G. Rowan, manager of the local branch of the Diamond T Motor Car Co., has received word from the factory that the branch here has won first place in a sales contest with the Pittsburgh, Pa., and St. Louis branches.

M.A.M.A. Credit Managers to Meet

Three-Day Conference Starts Sept. 14—Committee is Appointed

NEW YORK, July 19—The Motor & Accessory Manufacturers Association has designated Sept. 14, 15 and 16 for a conference of credit executive members of the association, similar to that

held last year.

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The conference will be held in Detroit and the first and third days will be given over to regular meetings of the credit groups, which are now seven in number, including four dealing with manufacturers and three with wholesalers. On the second day there will be a general conference of all groups, which any member of the association may attend, followed by a dinner in the evening. Speakers have not yet been named, but members of the committee on arrangements are:

E. R. Ayles, Detroit Steel Products Co., chairman; L. F. Bomhoff, Jaxon Steel Products Co.; J. F. Monfills, Michigan Steel Castings Co.; F. T. Burgis, Motor Products Corp.; C. W. Dickerson, Timken-Detroit Axle Co.; T. M. Simpson, Continental Motors Corp.; Julian Gifford, Zenith Detroit Corp.; W. L. Burgess, Long Mfg. Co.; S. C. Reynolds, Federal Mogul Corp., and M. L. Hamlin, McCord Radiator & Mfg. Co. The committee will work with M. L. Heminway, general manager, and Arthur Fagan, credit manager of the association.

Torkelson Joins Chicago Firm

CHICAGO, July 19—M. W. Torkelson, for many years chief engineer and secretary of the Wisconsin State Highway Commission, has become associated with the engineering firm of Consoer, Older & Wuinlan, of this city. Mr. Torkelson sailed July 8 from New York for South America, where he will spend six to nine months as represen-

Bill for Building Garages Higher Than for Churches

WASHINGTON, July 20—As a result of the growth of the automobile in the United States, garages and service stations are in second place from a standpoint of building expenditures, according to a survey just made by the U. S. Bureau of Labor Statistics covering the past six years from 257 of the largest cities.

The figures show the annual per capita building construction during the past six years was \$74.78. Of this sum \$26.79 was for non-residential buildings. In the non-residential group, factories, stores and warehouses as a group

rank first with an annual per capita expenditure of \$13.06. Garages and service stations rank second with an annual per capita expenditure of \$3.84 or 5.1 per cent of the total non-residential buildings.

In commenting on the figures the Bureau says: "The automobile, although a comparatively new factor in American life, accounted for the next largest expenditure during this period, more money being spent for the erection of garages and service stations than for schools, churches or amusement buildings."

tative of the firm, investigating a number of major engineering projects on behalf of Chicago and St. Louis financial interests.

Hupp Adds 53 Dealers

DETROIT, July 20—During June the Hupp Motor Car Corp. appointed 53 new dealers, and additions since the first of the year have numbered about 300.

In the first six months the company produced and shipped 22,317 cars, against 26,943 in the corresponding period a year ago, when all previous records were broken, the gain over 1925 having been 34 per cent and over 1924, 54 per cent.

In June 2879 cars were shipped, compared with 3516 in May and 5047 in June a year ago, a record month.

Parker on N. A. C. C. Committee

LANSING, MICH., July 19—W. C. Parker, manager of the Speed Wagon and Bus Division of Reo Motor Car Co., has been appointed a member of the Truck Committee of the National Automobile Chamber of Commerce.

Pontiac Prices Cut \$30 to \$50

PONTIAC, July 18—Oakland Motor Car Co. has reduced prices from \$30 to \$50 on the Pontiac line. The reductions, it is said, are made possible by manufacturing economies resulting from the new \$15,000,000 Pontiac plant. The new prices follow:

Two-four-passenger roadster, \$745; two-passenger coupe, \$755; five-passenger, two-door sedan, \$745; four-passenger sport cabriolet, \$795; five-passenger landau sedan, \$845; five-passenger de luxe landau sedan, \$925.

Stewart Sales Gain

BUFFALO, N. Y., July 19—T. R. Lippard, president of the Stewart Motor Corp., states that the Stewart truck business continues to show a marked increase in sales throughout 1927 and there is every indication now that this will be one of the most profitable years in the history of the company.

"Our shipments for the first six months are much greater than for the same period last year," said Mr. Lippard. "Unfilled orders now on the books are 98 per cent greater than for this date last year."

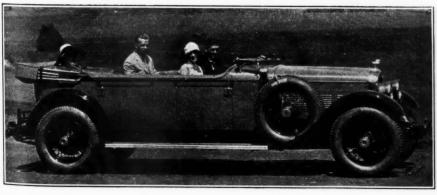
date last year."

To Bridge Brandywine

WILMINGTON, DEL., July 19—Before making plans for a new bridge over the Brandywine river here at Market street, which it is proposed to build, a daily census is being taken of the traffic passing over the present one. The result will have a bearing on the size and general layout of the bridge.

McGlenn Leads Federal Sales

SPOKANE, WASH., July 17—K. L. McGlenn, of March-Strickle Motor Co., Federal truck distributor, has taken first place in the United States among Federal salesmen for cities of 150,000,



A New Safety Stutz Model

Ouite the "snappiest" looking of the smart Safety Stutz models seen in fashionable centers is the 7-passenger custom-built speedster. The low lines clearly indicate the low center of mass so characteristic of Safety Stutz

What's Coming in Motordom

shows
Chicago
Exposition, Coliseum, Automotive Equipment Association.
*ChicagoJan. 28-Feb. 4
National, Coliseum, National Au-
tomobile Chamber of Commerce.
ChicagoJan. 28-Feb. 4
Automobile Salon, Hotel Drake.
Cleveland
Des MoinesFeb. 20-25 Coliseum.
Green Bay, WisAug. 29-Sept. 2 Auto Building.
Los AngelesFeb. 11-18 Automobile Salon, Hotel Biltmore.
MinneapolisFeb. 4-11 Municipal Auditorium.

New	York		N	ov. 27-Dec	. 3
	lutomobile lore.	Salon,	Hotel	Commo-	

*Will have special shop equipment exhibit.

CONVENTIONS

Automotive Coliseum,	Equipment Chicago	Association, Nov. 7-12
National As	sociation of	
National Sta	ndard Parts	

S. A. E.
Chicago, November—National Transportation and Service Meeting.
New York, Jan. 12—Annual Dinner.
Detroit, Jan. 24-27—Annual Meeting.

RACES
Altoona, PaSept. 5
Atlantic CitySept. 5
Charlotte, N. CSept. 19
DetroitSept. 10
Los AngelesNov. 24
Salem, N. HOct. 12
Syracuse, N. YSept. 3

Dodge Brothers Dealers Praise Factory Policies

DETROIT, July 18—Introduction of the new Senior Line of "sixes" has brought out new evidence of the strong tie existing between Dodge Brothers, Inc., and its dealers. An advertisement published by the Pacific Coast dealers in Western newspapers congratulated the factory on the new cars and commended its policies.

"Time has in no wise changed the original feeling of Dodge Brothers dealers towards Dodge Brothers, Inc., nor in any matter altered that original cornerstone in Dodge Brothers policy, of never doing anything inimical to the best interest of its dealers nor the public which they serve," the advertisement said.

It continued: "When Dodge Brothers changed from private to public ownership there were those who expected many of the traditions of Dodge Brothers to be cast aside, even started rumors that the Dodge Brothers ideals of reliability and dependability would no longer be adhered to. It is with much gratification that we dealers look back over the period of the present management."

Shipments Increase

CLEVELAND, July 20—Chandler-Cleveland Motor Car Co. reports net income of \$576,919, after depreciation and Federal taxes, for the three months ended May 31, 1927. In a letter to stockholders, F. C. Chandler, president, said: "In the shipment of cars, the first six months of 1927 show an increase of 29 per cent over the same period last year. In earnings, while the company did not gain much headway until March 1, the net earnings after depreciation and Federal taxes were \$576,919 for March, April and May."

Takes on Chevrolet

OAKLAND, CAL., July 21—The Harold D. Knudsen Company, Chrysler dealer here for nearly three years, has been appointed dealer for Chevrolet. Knudsen will devote his attention exclusively to Chevrolet.

Tire Cut for Mail Order

AKRON, July 19—Reports that mail order prices on automobile tires and tubes will be advanced on Sept. 1 from 5 to 8 per cent are interpreted as forecasting firmness in the general tire market for the immediate future, and probably an increase on all lines within the next 60 days.

The move by the mail order houses is a step in the right direction, according to Akron manufacturers, and will help to stabilize conditions in the industry.

While crude rubber is several cents a pound lower, cotton fabric is selling considerably higher than last year. The Mississippi River floods cut down the supply of long staple cotton, used large-

ly in tire manufacture.

Chevrolet Lets New Building Contract

DETROIT, July 19—Contracts for the erection of the new Chevrolet office building and the parts and service building, at Flint, have been let to H. G. Christman, contractor. The sum involved is approximately \$800,000 but does not include furniture or equipment.

Studebaker for Air Ace

HAVANA, CUBA, July 18—The custom of presenting an automobile to trans-Atlantic flyers was instituted here by citizens who presented Commandante Ramon Franco, the first flyer to cross the Atlantic Ocean from east to west, with a Big Six Studebaker. Franco is the Spanish ace, who flew from Spain to South America a short while ago.

Chevrolet Dealers Meet at Mason City

MASON CITY, IA., July 19—Chevrolet dealers in this district recently held a two-day sales conference at the Hotel Hanford with the following district representatives of the Chevrolet conducting the sessions: L. F. Ryer, sales manager; K. H. May, assistant sales manager; W. F. Cornell, sales promotion manager; C. F. Swanson, parts and service manager; J. E. Johnston, accounting manager; E. E. Fitch, service promotion manager; R. C. Clark, service school instructor, and R. M. Stines and J. K. King, district representatives. Fifty dealers attended the meetings.

Jordan Adds Two

DETROIT, July 19—Two additional models in the "AA" eight-cylinder series, a 2-4-passenger "Playboy" and a 2-4-passenger sport coupe, are announced by the Jordan Motor Car Co., Inc. The former is priced at \$2,345 and the latter at \$2,495. Equipment on both models is the same and includes wood wheels, shock absorbers, automatic windshield wiper, engine heat indicator, dash fuel gage, rear traffic signal and clock.

Triangle Tire Moves

KANSAS CITY, July 19—The Triangle Tire and Battery Co., has moved from 30th and Gollham road, where it has been located for several years, to 42nd Street and Troost Avenue. The company, which handles the Prest-O-Lite products, will have much larger quarters in the new location.

Form Woodruff Motor Co.

NORTH WILKESBORO, N. C., July 19—The Woodruff Motor Co. has been incorporated with a capital stock of \$50,000, \$9,000 of which has been subscribed. This company will deal in automobiles and accessories. Incorporators are W. D. Woodruff, Mrs. Elizabeth Woodruff, T. C. Cautill and others, all of this city.



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Know The Product

Such Knowledge is the Prime Requisite of a Good Salesman and Its Importance Increases as Competition Grows Keener

By John Cleary

You are always sure to get a laugh from any group of automobile men by merely showing one of the advertisements run by the manufacturers in the gay nineties. After poking fun at the fringe on the roof and at all the other dewdabs and gadgets on those early contraptions, it is the custom to sneer contemptuously at the printed lists of specifications, and to smile a superior, modern smile at the playing-up of mechanical details in the copy.

Those days have gone forever, we have all said more than once, and they have gone, not only from automobile advertising, but from automobile salesmanship as well. What we want to tell people about our automobile, in our advertising and in our selling talks, is not what the car is made of and how it is made, but what it will do and how it will do it. We must emphasize effects, not causes.

That is how manufacturers and dealers and salesmen

have been thinking for some years, and they have been acting on those thoughts. With the natural and logical result that the bewildered buyer, bombarded from every side with claims that every automobile, from the highest to the lowest, will do everything that an automobile can be called upon to do and do it better than every other car.

We believe that the day of those generalizations has passed. We believe that we should only have said "au revoir" and not "good-bye" to the old mechanical arguments. They are back with us again today, and the sooner we all realize it the better it will be for automobile salesmen.

When everyone in the industry has been making the same claims for his product that all the others have been making for their products, the effect has become largely a chorus of "me toos."

We have all been guilty of the error of the colored parson who noticed that one of the deacons did not seem to be properly impressed by the discourse one Sunday morning.



You Sell

HE day of the order - taker has passed. There is no longer any room for him in this highlyspecialized, highlycompetitive industry. Success in the automobile business from now on, will come only to the aggressive salesman who knows his automobile inside and out, who knows wherein it excels competitive cars, and who will enthusiastically disseminate that information-by selling talks and demonstrations - to as many prospects as possible, every day in every week.



Success will come to the salesman who knows his automobile inside and out

all the argument will be of no avail, and the prospect will not obey that impulse, unless we have shown him "wherein" lies the value in our product that will make it a thoroughly satisfactory purchase for him.

Now is the time for all good salesmen to learn their product.

Learn your product, men, so that you will be able to tell the buyer that the amazing performance of your car is not merely the trick stunt of a specially-tuned and specially-adjusted demonstrator, and that it is not characteristic of the car only when new.

Learn your product, men, so that you may clearly and intelligently explain why this astonishing performance ability continues during the life of the car and is only a part of the value built into the product.

If your product is superior, you can find reasons for that superiority in the time and thought and energy and skill and money expended in the development of the engineering design, in the purchase of materials that accord with the specifications of that design, and in the fabrication of those materials into the finished product by accurate, precise and painstaking manufacturing methods.

Sometimes an experience in another line of business serves to point a moral more graphically than a similar episode in one's own line. With that thought in mind, we are prompted to relate an incident that was told some time ago by "The Little Schoolmaster" in *Printers Ink.*

The Schoolmaster went to buy a lock at the local hardware store. The salesman there showed several locks. One of them, which seemed about the right size,

was handed out with the statement that it was "a real good lock."

Wondering whether this lock would become so full of rust and dust that, like its predecessor, it wouldn't work long, the Schoolmaster hung back from buying. The movie star with the patent leather hair, behind the counter, smiled ingratiatingly and repeated his statement, this time much more vehemently, "That's a real good lock and you'll like it," he said. It didn't seem to snap and open very well, so the Schoolmaster went out without buying.

Later on in the day he happened to see a catalog issued by a lock company in Philadelphia. On one page he read, "If a customer says, 'I want a small padlock that will withstand any attempt to pick, file or force it open,' sell him this." Then it went on to explain that the mechanism was protected by a patented shackle ejector, which kept out the dust and dirt when unlocked.

Its construction was described as being a heavy cast iron bronze case, highly polished, and the interior parts were described in full. It had a hardened, forged steel shackle. Extra keys were mentioned and described. The size and weight of the lock and several other points about its salability were given in full. The whole catalog constituted a real sales manual on locks, full of suggestions for the retail salesman. The use of a product for a particular purpose was emphasized on each page. It was full of selling suggestions.

The irony of the thing was that the lock described so fully in the catalog was the identical lock which was handed out to the Schoolmaster by the hardware clerk.

(Turn to page 30, please)

Inside Ball or Tombstones?

The Dealer Who Can't Find Time for Both the Letter to and Contact With Prospects in His Sales Campaign is Headed for the Graveyard.

By H. Bertram Lewis

MR. LEWIS, who is vice-president of The Commercial Credit Companies, herein treats a subject about which too much cannot be said. There's no gainsaying the importance of the follow-up letter and personal contact. Yet the inclination exists among the trade to shirk the one while practicing the other. Mr. Lewis makes the point that to one who has the faculty of organizing his work there is ample room for both, and each must play a part in every well-directed sales campaign.

T was only a hair-line decision that influenced me to overhaul the old car last spring instead of buying a new one.

I had looked them all over, picked the one I wanted, and negotiated with the salesman of a near-by dealer in that line. After deciding to postpone for a season or two the capital investment, required for a new car, I wrote the salesman in question a most friendly letter reporting my intention and inviting him to put my name on his prospect list for renewed contact some eight months hence. It was an unusually generous sort of letter—the kind I never saw from any customer when I was myself selling motor cars.

And because it was human and cordial it should have been promptly acknowledged in similar terms—but it wasn't. It wasn't acknowledged at all. I may be on that salesman's prospect list but if so I don't know it and I certainly don't feel bound in any way to await his next overtures, though I like him as a man and should be glad to deal with him again if he were sufficiently interested.

He's a pretty fair salesman at the actual point of contact—good personality, full of enthusiasm for his car and his company, able to present his appeal convincingly and to stimulate your personal good will in



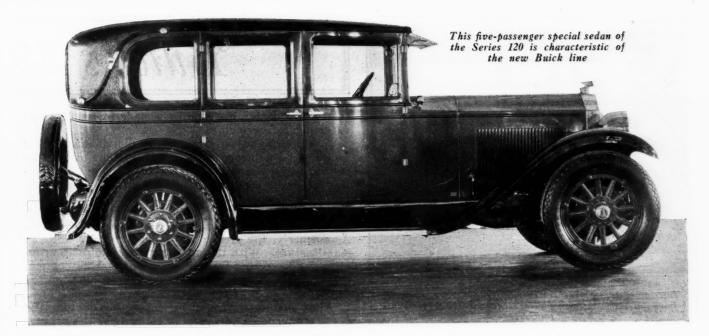
the doing of it. He has all the specifications for success in his chosen field—but clearly he hasn't yet learned to follow through.

And if there is any respect in which automotive salesmanship falls down beyond all others it is in just such small human refinements of the art as this situation demanded. It woefully lacks resourcefulness. It follows doggedly the beaten path and never seems to look to right or left for routes that may cut down the distance. Letters take time. While you are composing a letter to confirm your conversation with one prospect, or to show him a special degree of interest in some point that your competitor will almost surely overlook, you might be seeing another equally promising prospect—and sales are closed in person, not by letter. Such is the conventional line of reasoning.

But while you aren't composing the letter your competitor may be seeing the first prospect under far more favorable conditions than those that surrounded your contact and may have such a head start before you reach the scene again in person that nothing you can do by them will save the sale.

To one who has the faculty of organizing his work there is ample room for both—the letter and the contact—and each should play its part in every well-directed sales campaign. The all-important consideration is to leave no loose ends in the prospect's mind—and the surest possible safeguard against that condition is a timely letter to cover whatever vagueness you suspect in his conception of your proposition. Or where, as in this case, he may have written you, to make sure he is not left in doubt as to your reaction.

(Turn to page 32, please)



Buick's 1928 Line

Developments Include Standard Gearshift, Entirely Machined Spherical Cylinder Head, Increased Cooling and More Accessible Chassis Lubrication Fittings

By Athel F. Denham

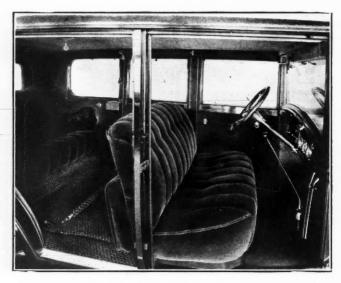
NNOUNCEMENT of its 1928 line by the Buick Motor Co. brings with it numerous refinements in design and equipment rather than radical changes. A new type, entirely machined spherical cylinder head, redesigned camshaft and valve mechanism, and increased cooling are principal among developments designed to give better performance. A double drop frame, lowering bodies from 2 to 3 in., bullet-type headlamps, sweeping crown fenders, longer bodies, and refinements of interiors lead the changes which have been made to improve appearance. Serviceability has also been increased by making chassis lubrication fittings more accessible, redesigning distributors for greater ease of adjustment, etc.

A standard S.A.E. gearshift has been adopted on the new models. Steering posts are ad-

P Y
FOLLOWING is a complete list of body models offered on the Buick 1928
Series and prices:
Series 115
5-p. 2-door sedan\$1195
2-4-p. de luxe roadster 1195
5-p. de luxe touring 1225
2-p. coupe
4-p. country club coupe . 1275
5-p. 4-door sedan 1295
5-p. town brougham 1375
Series 120
5-p. Sedan 1495
5-p. town brougham 1575
4-p. coupe 1465
Series 128
2-4-p. deluxe spt. roadster 1495
5-p. de luxe sport touring 1525
4-p. country club coupe. 1765
5-p. coupe 1850
5-p. brougham 1925
7-p. sedan 1995
4

justable, seats are form-fitting, closed car front pillars are narrower, Lovejoy shock absorbers are standard on all models, open cars have windshields which fold forward, and a variety of improvements and refinements in fittings have been incorporated in the 1928 series.

Leading changes in the engine are the new valve mechanism and combustion chambers. Cam contours on the camshaft have been changed so as to conform with shortened push rods, while valves are 7/16 in. shorter on the Series 115 and 5% in. shorter on the Series 120 and 128 with valve springs and guides decreased proportionately in length. This change has resulted in a lighter, quieter operating valve mechanism. In addition No. 1 Silchrome exhaust valves of the mushroom type are now used, exhaust valve ports have been increased in cross-sec-



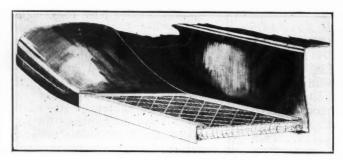
Interior of the Series 128 seven-passenger sedan, exemplifying interior contrasting color schemes. Note form fitting seats

tion, as has the exhaust pipe, while the muffler is somewhat smaller in diameter and longer than formerly. Inlet now opens at top dead center with exhaust closing 52 deg. after top dead center.

Completely machined, the new Buick combustion chamber is of spherical design with valve seats slightly recessed and of somewhat higher compression ratio than formerly. The effect of the new head has been to increase the torque available at low speeds, a net increase of 8 and 5 ft. lb. respectively having been attained at 800 and 1200 r.p.m., on the 115 in. wheelbase models, while the 120 and 128 in. wheelbase engine develops 9 and 7 ft. lb. more than last year at these speeds, resulting in quicker acceleration and hill-climbing at the lower speeds.

Gear ratios in some of the heavier models have also been increased in order to provide greater flexibility for these models. On the 115 in. chassis, the sedan and town brougham now have ratios of 5.1 to one as against 4.9 to one on the lighter models. Sedans and broughams on the 120 and 128 in. wheelbase chassis have gear ratios of 4.9 to one, other 120 and 128 in. models having a ratio of 4.73 to one. Tires on the Series 115 are now 31 x 5.25 in., the 120 and 128 Series retaining the 33 x 6.00 tires formerly used on these chassis.

Better cooling on all models has been accomplished by increasing the radiators in height as well as depth, the 115 in. models having the same radiator frontal area as the other chassis. In conjunction with this change, namely the increase in depth of the radiator, a V-type fan belt has been adopted. A change in the



This method of attaching running board binders eliminates visible screw or nail heads

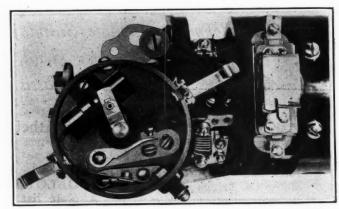
Buick's 19

thermostat design has also been made to simplify disassembly for servicing.

To simplify adjustment of the distributor a new type has been incorporated. This distributor can be re-timed by loosening the lock bolt, lifting and turning the head. Spark gap adjustment is by loosening two screws which hold down the arm carrying one of the points, when this point can be shifted, the holding screws passing through oval holes in the arm. As formerly, the electrical system is of Delco-Remy manufacture. With the adoption of a combination ignition and steering gear lock on the steering column, the ignition circuit breaker is mounted back of the dash.

Other changes in the electrical system include the use of a thermostatic charging control for the generator and higher gear ratio for the starter mechanism. The starter is now equipped with a grounding strap since rubber engine supports are used.

Changing over to an S.A.E. standard shift has been accomplished simply by reversing the forks, gear ratios and gears remaining practically identical with those used on former models. The new transmission has been so designed that it can be used for service



New distributor has simplified breaker and timing adjustments

replacement in former Buick cars, although the former Buick shift cannot be used in the 1928 models due to a change in the emergency lever mounting and linkage the lever now being mounted on the side of the gearcase instead of integral with the cover. This was necessary due to a lowering of the frame.

Propellor shafts are still of the torque tube type the major change being in re-locating the radius rods, which now attach to the tube back of the fourth crossmember (third on the 115 in. models) instead of immediately back of the transmission case as formerly. The rear ends of these radius rods have also been moved in somewhat from the axle ends and are attached to forged brackets on the axle housing, where they are more accessible in case of need of adjustment.

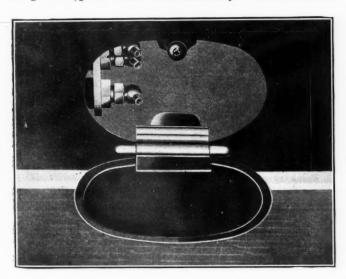
A standardized axle has been developed for the Series 120 and 128, identical except for propellor tube length. Differential gears, moreover, are interchangeable between these chassis, as are differential bear-

28 Series

ings. Other changes in the rear axles include a new type of anchor pin for the differential pinion shafts. This pin is larger in diameter than formerly and locks the shafts by means of a groove in the shaft side rather than through a drilled hole as formerly.

A forged boss for attachment of the Lovejoy shock absorbers is the main change on the front axle. Brakes are practically identical with those used on former models, the major changes made, all in the linkage, being required by the increased clearance between the lower frame and the running gear. An adjustable column is the major change in the steering gear. This adjustment is obtained through the use of toothed interlocking brackets on the steering column and the dash, with an elongated bolt hole in the bracket on the dash, providing a movement of $1\frac{1}{2}$ in.

Frames are of entirely new design. While the stock is somewhat lighter than formerly (now 9/64 in.) strength has been increased through the use of wider flanges, and a rolled over lower flange on the side members. Side channel depth on the Series 115 has been increased $\frac{1}{2}$ in. to $6\frac{1}{2}$ in., and the curved lower flange is $1\frac{3}{8}$ in. wider than formerly. On the Series

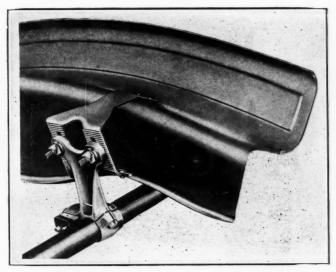


Above is pictured the new hinged door inside apron for greater accessibility to greasing points

120 and 128 side channel depth is now 7 in., 9/16 in. more than formerly, and the flange has been increased 15/16 in. to 2 15/16 in. A heavier cross-member is also used, and following former practice all cross-members are provided with flanges widening out to take the place of gusset plates.

With a lowering of bodies of 2 in. on the Series 115 and 3 in. on the Series 120 and 128 due to the double drop construction adopted in the frame, overall height of the closed cars now ranges from 70 to 72 in.

While the major dimensions of the springs including spring eyes have been retained as formerly, they are lighter and have been redesigned in coordination with the use of the shock absorbers now standard. An interesting feature from a servicing angle is that all Zerk pressure gun chassis lubrication fittings are now accessible without the necessity of reaching under



This is a rear view of the instrument board showing adjustable steering gear column bracket

the car. This has been done by piping such points needing lubrication to accessible points. Five of such fittings are clustered beneath the running board apron on either side, where they are reached through a small hinged door in the apron.

By lowering the bodies, raising the radiator, adoption of heavier, more sweeping crown fenders, and elimination of the vertical moldings at either side of the rear body panel, body lines have been materially improved. Now two-tone color schemes are also used, while bullet type cowl and Tilt-Ray headlamps carry out the lines. On some of the models these are neckeled completely while on others they have a wide nickel band and black body to harmonize with fenders.

Special attention has been given to the interior finish of the new cars. A new idea has been incorporated, that of using contrasting color schemes inside as well as out. The color of the plush mohair is set off by using different colors for each wall and ceiling covering, and carpets. Seats in all models are of the form-fitting type. All sedans as well as rumble seats are fitted with arm rests for the rear seat.

A new instrument panel of attractive design has been adopted. All switches have been removed from the instrument board face. Headlight control, as well as the usual spark and throttle controls, is by lever on the steering wheel. The ignition lock is incorporated in the steering gear lock. These two locks are semi-independent, since the ignition can be shut off without locking the wheel, but the wheel cannot be locked without shutting off the ignition.

A double throw toggle switch is mounted under and just in back of the instrument board, controlling the indirect lighting for the instrument panel and a light mounted out of sight above the panel which furnishes illumination for the interior of the front compartment



This Series 115 roadster has a bell-crank on the rear top support to shorten it in the folded position

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Radiators on the new Buicks are indistinguishable on the separate chassis. They are higher and deeper than formerly.

Note crown fenders and Lovejoy shock absorbers

including the steering gear lock. Dome lights are controlled by either opening and shutting the rear compartment doors on the sedans, or by the switch placed on the right middle pillar. As mentioned, front body pillars are of the clear vision type and of composite construction. By decreasing the depth of the top windshield panel additional vision has been obtained. A new type of sun-visor with nickel plated mounting brackets is used.

Two of the new Buick models have adjustable driver's seats. They are the five-passenger, two-door sedan and the five-passenger coupe of the Series 128. Total adjustment is 2 in. A new type of top material, rubberized and washable is used on the sports models. Open models have forward folding windshields. The panel between the bottom of the windshield and the cowl also has glass inserts on each side of the cowl curve. The folding posts of these windshields

are drilled for the air duct to the windshield wiper. A locking tool compartment is incorporated in the left front door, by means of a panel hinged at the bottom, on the five-passenger de luxe touring of the Series 128.

A combination stop, backing and tail light is now used. A single lamp is used for either backing or stopping, the first being controlled by the shifting of the reverse gear, the latter by the usual foot brake pedal action. The switch for this light is mounted on the rear of the transmission cover.

A new idea is also found in the running board trim, in which screw heads are not visible. This is accomplished by placing a steel binder strip carrying the screws below the trim. The metal trim has a turned over edge which catches below this binder strip, and is tacked on from below the running board.

Standard equipment on all models includes automatic windshield wiper, dash gasoline gage and dash engine thermometer, rear vision mirror, Lovejoy shock absorbers, smoking and vanity cases on sedans, wood wheels, cigar lighter on de luxe models, rear traffic signal. Special equipment offered through Buick dealers includes trunk rack, mountable on any model, front fender wells for carrying tires on running board, exhaust heater, wire wheels, and front and rear bumpers. The regular tool equipment includes a new type Drednaut telescoping double-screw jack.



A neew washable rubberized top material is used on the Buick sport models, as exemplified by this Series 115 country club coupe. Note new radiator ornament

Know the Product You Sell

(Continued from page 25)

The catalog sold this consumer a lock from the manufacturer's office ninety miles away. The man in the hardware store confined his selling effort to the languid statement that it was a real good lock.

Listen to the Schoolmaster's comment on the experience:

"The salesman at the hardware store, with his slicked hair and his foolish smile and the slogan borrowed from an automobile manufacturer, didn't sell me because he didn't know locks. The manufacturer who can get the retail salesman consistently to use selling arguments he has carefully dug out for him over a long period of years, is going to do a whole lot to cut down some of the waste in modern selling.

"But it seems to me that many retail salesmen are slipping backwards in any attempt to sell whatever. Ten years ago they seemed to know more than they do now about the merchandise upon which they depend for their bread and butter. A smile and a good personal appearance are fine things for a retail salesman, but they will never take the place of some slight knowledge

of the merchandise and how and why it will serve the prospective purchaser."

For automobile salesmen the moral of this tale is: Study the Sales Manual and study the cars.

Let us repeat that knowledge of the product he is selling is first among the requisites of a good salesman. It is the most important requirement for every salesman, no matter what line of goods he is handling, no matter what may be the trade conditions. Its importance increases as competition grows keener, and as the market grows less responsive.

The day of the order-taker has passed. There is no longer any room for him in this highly-specialized, highly-competitive industry.

Success in the automobile business, from now on, will come only to the aggressive salesman who knows his automobile inside and out, who knows wherein it excels competitive cars, and who will enthusiastically disseminate that information, by salling talks and demonstrations, to as many prospects as possible, every day in every week.

Fortunate, indeed, is the salesman whose enthusiasm over the product he represents grows in direct proportion to his knowledge of that product.

Registrations at Mid-Year Mark Show Gain of 1,164,000

Exceed Total at Same Time Last Year by 6 Per Cent.
Loss Experienced by 10 Commonwealths

By K. W. Stillman

TOTAL vehicles registered in the United States during the first six months of 1927 amounted to 20,744,197 cars, trucks and buses and 97,539 motorcycles.

Passenger car registrations were 18,133,440, truck and bus registrations combined totaled 2,610,757, while in the relatively few states in which bus registrations are kept separate from other types of vehicles there were 13,006 registered.

Registrations of cars, trucks and buses so far this year were 1,164,329 greater than for the similar period of 1926, which represents a gain of 6.0 per cent. According to these figures and census estimates for July 1, 1927, there are 5.7 persons per motor vehicle in the country at this time.

As has been the case in the past few years, July 1 registrations are less than those for the preceding end-of-the-year period. As has been explained before, this, undoubtedly, is caused by two factors. The first and more important one is that, with the increasing number of cars being eliminated from service each year, it takes a longer time for new car sales during the following year to replace them in registrations.

During 1926, according to estimates made in the last Statistical Issue of Automotive Industries, there were approximately 2,143,000 motor vehicles removed from service. All of these vehicles appeared in the end of the year reg-

Motor Vehicle Registration Statistics, July 1, 1927

Total Cars,

Truc	ks and	Passenger	Gains Since
	uses	Cars	July 1, 1926
	4,843	195,805	11,658
	0,000	60,000	5,000*
	5,709	149,387	1,526*
	5,568	1,386,761	125,998
	4,794	216,031	206*
	0,100	219,083	22,460
	2,505	34,705	2,480
	9,991	114,671	13,452
	4,757	316,284	34,210*
	7,760	223,741	29,452
	6,100	78,000	463
	3,326	1,136,208	85,290
	4,871	641,079	54,263
_	6,903	606,638	11,997
**	4,685	406,605	20,999
	50,989	224,361	1.011*
	10,000	175,000	6,000*
	29,046	109,171	
	15,070	234,835	3,979*
	34,661	555,183	20,989
Michigan 1,04	10,680	900,536	19,454
	05,525	530,888	48,502 33,376
	98,500		
	20,000	179,000 545,000	13,500
	99,460	85,087	36,550 7,300
	86,850	263,953	
	21,896	17,337	31,922* 1,369
	86,618	76,200	
New Jersey 6	29,339	520,499	7,218 54,311
	51,044	49,483	4,473
	34,600	1,406,245	229,003
	41,650	399,000	49,977
	45,383	133,973	1,059
	36,939	1,276,939	121,939
	23,775	384,500	6,225*
	23,773 08,478	192,302	12,837
Penna 1,2	64,366	1,094,653	60,396*
	04,300	86,228	
	74,523	157,087	10,653
	65,000	152,000	22,173
	69,948	245,401	5,000
	85,406	885,110	46,151 81,673
	84,450	72,927	81,673
37	70,172	64,876	6,259
			6,305
	99,924 48,628	264,052	24,824
		298,639	23,968
	99,459	176,797	15,792
***	46,198	550,358 40,822	38,785
			1,952
Total 20,7	44,197	18,133,440	

..... 1,164,329

* Registration loss.

Total registration fees, \$271,171,724.

Total gasoline taxes, \$103,030,982.

istration data for 1926 but none of them were registered during this year. Thus it is evident that at least this many new vehicles must have been sold and registered during the first six months of 1927 if the mid-year registrations were to equal or exceed those of the preceding end-of-the-year.

A few years ago it was possible to do this so that each registration tabulation, whether taken in the middle or at the end of the year, showed substantial increases over the preceding one. Within the last year or two, however, the condition has changed and it now takes considerably more than six months' sales of new cars to overcome the effects of the very considerable amount of elimination which has taken place during the whole of the previous year.

The second factor is one which has always operated to influence mid-year registration data and is no more effective now than in past years. This is the very great amount of estimations which must be done in tabulating mid-year registrations. This period is in the midst of new car registrations activities and complete and accurate returns are available at this time from only relatively few states.

This second factor makes it unwise to depend too much upon mid-year registration data. Many states are unable to supply accurate information at this time for more than the first

four months of the year, but estimate the rest, and in nearly every case the books have not been closed and completely audited as early as the information is required for this presentation.

In general, however, the figures presented here may be considered fairly reliable as expressing the general trends of the industry.

This year, for the first time, a number of states show fewer motor vehicles registered than one year ago. At first glance this appears rather improbable but it is doubtless due to the same causes as were mentioned before. The number of vehicles being scrapped each year is constantly and increasing the amount of new sales re-

quired to compensate for this loss in vehicles in operation is constantly growing greater. This fact, coupled with the incompleteness of information which may be of greater influence in particular states this year than it was last year, seems to be the explanation of the unique trend expressed for the first time in this tabulation. There is little doubt that all of these states showing a loss over last July will register substantial increases next December over the 1926 total figures.

There have been few important changes in the relative position of the various states. Because Pennsylvania showed a slight loss in registrations over those of a year ago, it has been reduced one place in the order

Jul	y .	1, 1927	
Georgia 1	23	Missouri	5.7
	1.3		5.6
	1.0	Oklahoma	5.6
	0.6	Texas	5.5
	0.1	Wyoming	5.2
,	9.2	New Hampshire	5.2
Tennessee		Vermont	5.0
	9.0	Nebraska	4.9
	8.5	Ohio	4.7
Virginia	8.5	Colorado	4.6
Pennsylvania	7.7	Wisconsin	4.6
New Mexico	7.7	Washington	4.5
Montana	7.2	North Dakota	4.4
Rhode Island	6.8	Minnesota	4.4
Massachusetts	6.7	Michigan	4.3
North Carolina	6.6	Oregon	4.3
Arizona	6.6	South Dakota	4.2
New York	6.6	Indiana	4.2
Maryland		Dist. of Col	4.2
Connecticut	6.3	Iowa	3.7
Maine	6.2	Florida	3.6
Utah	6.2	Nevada	3.5
Idaho	6.1	Kansas	2.9
New Jersey	6.0	California	2.8
Delaware	5.7		
		Total II S	57

of rank, exchanging third place with Ohio. This year Michigan has registered over one million cars and trucks, thus making six states in this group, one more than a year ago. Rhode Island has advanced to the 100,000 class, leaving but 10 states in which fewer than this number of vehicles are registered.

Total gains were considerably less than those of a year ago, which might have been expected in consideration of the great increase of eliminations and the relatively stationary production and sales figures for the past two years.

In 10 states a loss of registrations is indicated but the total loss is only 150,000 and no small part of that is probably

due to incomplete data. Total gains for the year were about 1,315,000 as compared with 1,991,000 for 1926. Percentage gains this year were 6.0 per cent while in 1926 they were 11.3.

Unless our production and domestic sales activities should increase in future years at a much more rapid rate than they have in the past two or three years, this trend of decreasing registration gains is likely to continue and it may not be so very long before nearly all the domestic sales will be required for replacement purposes, except for that portion sold to an increasing population increment.

Inside Ball or Tombstones?

(Continued from page 26)

The automobile market has passed many leagues beyond the point where any car is going to sell itself extensively enough to keep the dealer from starvation or the factory in profitable production. There is far too little to choose between one competitor and another at any given price level.

Salesmanship and service will have a tremendously more vital relation to production figures in seasons to come than ever in the years gone by.

Shall I be drawn and quartered for suggesting that up to this stage in automobile history the engineer has been far and away our most effective salesman? Or that our volume has grown in spite of, rather than because of, our salesmanship?

It's worth the risk—for the manufacturer and dealer whose salesmen of the future do not learn to cultivate every atom of goodwill that the little extra courtesies can induce have nothing but the graveyard in prospect. From this point on it's a battle not of designs, nor even of prices, so much as of wits. And in it the winners will be those who study human nature and know how to influence favorable reactions from their fellow-men. The use of letters in this process is a whole chapter by itself and I shall not attempt to analyze it here.

This neglect of a timely letter in the instance under discussion is not mentioned to introduce a treatise on selling by mail, but to illustrate the need of unremitting attention to small courtesies.

Inside ball wins the merchandising pennant as truly as it brings home the World Series money, and no message can be more helpful to the industry than one which stresses its importance.

A conspicuously successful service organization once drafted a sign for its office reading, "The Blank and Blank ideal of Service is to do the little things that other firms forget." Its application of that ideal has given it unquestioned institutional leadership in its field.

The automobile merchant who adopts the same slogan has almost clear sailing before him.

For scarcely one dealer in a thousand—or one salesman in a million—makes it more than 10 per cent effective in his operations of today. But in the big tomorrow, when the finish fight is on, it will outsell ten to one the time-worm practice of touching merely the high spots with a multitude of prospects and counting on the law of averages to turn a due proportion of them into sales.

This Moot Matter of Closing

Showrooms on Sunday

Detroit Automobile Dealers Association Votes

to Stop New Car Selling on Sabbath

But Keeps Lid Off Used Car

Departments

W. D. Edinburn, D.A.D.A. manager, who conducted mail canvass

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By Lewis C. Dibble

It is likely that a movement to close automobile salesrooms on Sundays and give salesmen the day off will receive much consideration from dealer associations throughout the country in the near future.

The Detroit Automobile Dealers Association held a special meeting, July 6, and by a majority vote of the 93 firms holding membership decided to close the new car showrooms in Detroit on Sunday. At the same time the Detroit dealers decided that the used car departments and service departments should continue to remain open as heretofore. Action of the Detroit asso-

ciation, it is believed, will give the movement a fairly strong send-off nationally.

The automobile business in Detroit, from a retail standpoint, is in its twenty-sixth year, and in all that time has been a seven-day-a-week business in practically every department. This is the first time that the dealer organization as a body, has taken such a stand, although Sunday closing was considered some years ago. Detroit is primarily an industrial city and dealers, in the past, have depended largely upon the week-end

business which has been made up principally from the factory workers. Persons in the industry contend that, if a city like Detroit can successfully close up its automobile stores on Sunday, the plan could be adopted in any city, once the dealers made up their minds to go into it.

A number of interesting points were brought out at the discussion which preceded the vote, and which are typical conditions existing in practically every city.

Many dealers have new and used cars displayed in the same room and how to handle this situation was the cause of considerable debate. If a customer entered the building while used car salesmen were there and insisted on seeing one of the new cars, should the customer be refused? was one of the problems which came up. The suggestion was made that the dealer might rope off the new cars or place attractive posters calling at-

tention to the public that only used cars were sold on Sunday. It was finally decided that once the general public becomes thoroughly familiar with the fact that new car departments are not open on Sunday, the dealers will not have much trouble from this source, and anyway, the consensus was that brother dealers possess a certain pride

of honor and that they will not make it a practice to take advantage of such opportunities but will handle such situations in as

will handle such situations in as diplomatic a manner as is possible.

There were a number of dealers who argued strongly for closing the entire establishment, including the used car departments and service departments, and, as a matter

of fact, some of these dealers voted against the partial closing which was finally decided upon.

Joseph A. Schulte, president of the

association

The debate developed the fact that there were a number of dealers who would also like to close the used car sales departments, but in view of the fact that Sunday is the best used car sales day of the week and because there are a number of independent used car lots and stores operated in the city, it was deemed that the dealers would lose by closing their used car departments and permitting this business to go to their independent competitors.

President Joseph A. Schulte, manager of the Cadillac Motor Car Co., Detroit branch, told the dealers that the directors of the association have been making a careful study of the Sunday closing plan for a number of weeks and that they were heartily in favor of it and were recommending its adoption



Walter E. Dusenbury argued for

THE action of Detroit dealers re making the seventh day of the week a day of respite from business should interest all other dealer associations that are confronted with this same problem.

Readers who have convictions on this subject will find the columns of Motor Age open to expressions of opinion. What have other opponents and protagonists of Sunday closing to say? What's the stand of the salesmen?

after a mail canvass conducted by W. D. (Eddie) Edinburn, manager, had indicated the apparent wishes of the association.

Among those who came out strongly for the Sunday closing plan and who advanced a number of reasons for his stand, was Walter E. Dusenbury, manager of the

Reo Motor Car Co. branch in Detroit.

"Several years ago I received an anonymous letter from the wife of an automobile salesman and it set me thinking," said Mr. Dusenbury. "She pointed out that the husbands of all her companions worked in other lines of business which allowed them to be with their families on Sundays, and then raised the question why her husband had to be away the entire day selling automobiles.

"That letter has often come to my mind since. Her husband should be with his family on Sunday just like other men are. And that case is just a fair sample of the condition which exists in thousands of homes. To my mind, we as reputable automobile dealers owe it to our men to give them the same advantages as other men. When we do we will be the gainers because we will make our business more attractive and thereby will find it easier to obtain a better class of salesmen.

"Today the only places of business which are open in Detroit on Sunday are fruit stands, drug stores, filling stations and automobile selling establishments. It seems that we could well afford to follow the example of the department stores and other lines of business which have suffered no hardships in closing on Sundays. To my mind the day we give the public to understand that we are going to close like other reputable business houses, then the public will like us just that much more because of our action and they will arrange to do their automobile buying on regular week days just the same as they do other merchandise."

During the discussions, A. B. Connelly, manager of the Studebaker branch, brought out an interesting point about used car sales. He stated that a survey of the various Studebaker agencies in Detroit revealed that from 1/3 to ½ of all the used car sales were made on Sunday. This was a typical example and was used as one of the strong arguments for keeping used car de-

partments open.

Whether or not the Detroit Automobile Dealers Association is going to be successful in bringing about a general closing of new car showrooms remains to be seen. The association will run advertisements in the daily press notifying the public of its stand but whether all the dealers will eventually fall into line, or whether a sufficient number will go through with the idea to make it permanent is a matter that time alone will decide.

At any rate, dealer associations throughout the country will be interested in observing Detroit's fight to place it alongside such cities as Toledo, Memphis and the metropolitan district of New York, where Sunday closing is now observed.

Sell This Idea to Your Local Fire Laddies

FOLLOWING is a suggestion that may be worked out to result in the sale of a number of additional automotive units in towns of fair size. Incidentally this would materially improve the fire-fighting facilities of the town.

This new and novel piece of fire-fighting equipment is shown in the accompanying illustration. The unit is a combination of ambulance and quick-lunch counter and has just been presented to the Detroit Fire Department by Paxton Mendelssohn, chairman of the Fire Prevention Committee of the Board of Commerce. This consists of a special body mounted on a Packard six chassis of 133-in. wheelbase. In order to keep the firemen comfortable and efficient when fighting a large blaze, this novel car is equipped with a large coffee urn at the front of the rear compartment. This is set on a large cabinet in which are kept cups, saucers and silverware. A drop door makes a small serving counter. At the rear is a polished aluminum sink with an adjustable shelf where dishes can be washed with water contained in the large tank above. Liquid soap is carried in a container at the side.

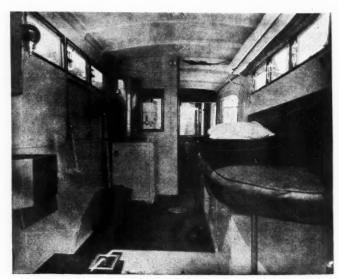
Hot coffee and sandwiches are now recognized as being most vital when the men are out a long time on a hard fire-fighting job.

In the event of injuries, the car can be used as an ambulance or hospital.

On the right side of the rear compartment is a long, leather upholstered seat beneath which are a large number of metal lockers for medicines and complete surgical equipment. Two stretchers are carried in brackets above and when in use are swung on straps from the ceiling. Emergency seats and a surgeon's table fold out of the way when not in use. A dust and water-proof

trunk is carried on each running board as a place to store blankets. Light is provided with two dome lamps and a movable spot light with a long cord held in a socket in the partition at the rear of the driver's seat. The windows are so arranged on the side as to give ample light and ventilation and still maintain privacy for surgeons performing possible emergency operations.

Firemen say it is the only car of its kind. There is no reason, however, why many such units should not be sold throughout the length and breadth of the United States.



Interior view of combination ambulance and quick-lunch counter

equipment puts

Circle — Another angle of the shop

Right-A neat shop arrangement that boosts efficiency. Below—Trav-eling hoist system lifts cars, moves heavy parts



Making a Go of

Service Promotion

How Chevrolet Does It

By D. G. Frazer*

N 1924 the Chevrolet Motor Co. instituted a definite program to improve service conditions in its dealer organization. The primary object of this service promotion movement was to persuade dealers to standardize their shop equipment and service methods throughout the United States on a basis that had been approved by the General Service Department of the Chevrolet Motor Co.

Each succeeding year this movement has gained momentum until today a large majority of Chevrolet dealers have adopted the standard service promotion installation of the company.

Service promotion, therefore, is merely an organized effort to assist every dealer in giving adequate service to the public at a profit to himself.

In order that you may understand our system of organization it is necessary for me to briefly outline to you the service set-up of the company. The country is divided into six regions, each having a regional parts and service manager directing all service activities. These regions are sub-divided into zones where a zone parts and service manager directs the company's service work in their division.

The Service Promotion Department, being a branch of the General Parts and Service Department, has representatives in each zone who report directly to the parts and service manager of the zone concerned and receive all policies and instructions pertaining to their field work from him.

The service promotion representative must have a

I believe that I can safely say to those of us gatherered in this meeting that one of the most difficult things to overcome when trying to improve service conditions is the lack of interest on the part of the deal-

ers themselves to service. It has always been the Chevrolet company's belief that to have successfully operated service departments in its dealer organization, there must be created in the minds of the dealers an interest in that department, and in doing this it was necessary to have a definite or tangible plan which could be laid before the dealer and explained in detail to him how it would work and what he must do to carry it on.

dealer that he knows his subject in order that he be able

to effectively assist the dealer in improving his service conditions. It is only through complete confidence on the dealer's part that the representative can do this.

complete knowledge of the subject at hand and a personality that will impress the

The company, therefore, has developed a definite program for improving service conditions which involve all the major elements necessary to carry on a first class service department.

When starting this work with the dealer, the first thing to do is to point out the weak features in his method of operation and what the company has to offer him in improving these methods. It is, therefore necessary that we have a specific thing to offer for each of the different phases of his service business. We have a standard layout and arrangement for a dealer's service department which is made flexible enough so that it can be fitted into the various types of buildings that we encounter. The principal features of this are that the dealer's shop have a toolroom enclosure where tools are placed in such position that they permit the most efficient operation by mechanics. As this toolroom is enclosed in a wire screening, it is arranged so that it can be put under lock, thereby protecting the dealer's

(Turn to page 38, please)

^{*}The author is manager of Service Promotion for Chevrolet Motor Co. This article is from a paper presented at the recent Service Managers' Forum of the N. A. C. C.

Why Did Seven Service Stations Defines a \$15



Refuse a \$15

Repair Job?

Here Was a Car Afflicted With Stiff
Steering—a Plum Ripe and Ready
to Be Picked—Yet They All
Passed It Up and Had
Something Else to
Offer

By C. Edward Packer

HY do so many automobile service stations refuse to accept a profitable repair job, when it is pushed under their nose?"

This question was put to us the other day by a man who had just finished a vacation tour through seven or eight states, and who had tried in seven different places to have his car cured of stiff steering.

The first stop was at a dealership in Chicago.

"My car was bumped on the front left wheel a little while ago and ever since it has steered hard and I would like to have the trouble taken care of"—was the way the problem was put to the service salesman who greeted this man, whom, for convenience, let us call Mr. Williams.

After walking around the car once or twice and looking at all the wheels, kicking the tires on both of the front ones, the service man suggested that it might be a good plan to rebush the front system. It was protested that the front system did not seem to be particularly loose and that the trouble developed immediately after the car had been run into. Neverthe-

less, the service salesman stuck to it that a rebushing job was what was needed.

Mr. Williams suggested that it might be worth while to check up on the steering worm and see if anything was bent there, but the service salesman waived that suggestion aside with the remark that rebushing always cured stiff steering.

Mr. Williams explained to us that what he told this service salesman was to the effect that he didn't have time, then, to leave the job and might see him later. If the truth were known, he probably secretly hoped

that he never would see him again.

Another stop was made at a service station that specialized in lubrication. Here there was a real salesman on the job who explained that the car needed a thorough lubrication anyhow, and that it was a good bet that a thorough oiling and greasing job would be a big help in making the car steer better. He was right. The job was sold, but the work that was really needed was not done. Some improvement in steering was felt, but still there was a real need for a complete repair job.

So it went-

One stop was made in Indiana, one in Ohio, two in Pennsylvania, one in New Jersey and still no one got at the bottom of the trouble and no one sold the real repair job that was ripe and waiting

to be picked.

In one of the places in Pennsylvania, a very fine aligning gage was put in place on the front wheels. It was shown conclusively that the front wheels were 1½ in. out of line.
"There's your trouble,"

"There's your trouble," the service man declared

triumphantly.

But, as Mr. Williams looked down and saw that the gage was on the rim at one end and on the wheel felloe at the other, this demonstration was not very persuasive, as it was evident that a perfectly good gage was being grossly misused.



"Surely," Mr. Williams said, "if such carelessness is shown when using the gage, what in the world can I expect from these men when I am not there and when they are working on inside parts that I cannot see? How do I know that the bushings would be reamed in line, and how am I to have any confidence in a place that handles service in that way?"

There is good profit in service work when it is profitably han-

dled, but one of the big expenses in doing business is in getting customers to drive into the shop. When once in the shop they should be aggressively sold everything that they need.

One of the service stations visited by Mr. Williams went so far as to point out the probable need of a complete overhauling in the front system. That was all that was said, and the car and customer were permitted to remain at the back door and no suggestion was made that work be started or that the car be left for repairs. The limit of the suggestion was that the work ought to be done and then the service man roamed back to his repair bench and continued to tinker on a carburetor which Mr. Williams guessed belonged to this mechanic's own car.

After waiting two or three minutes, Mr. Williams drove off, figuring that if the man showed no more interest in getting the repair work than that, he probably would not show much interest in turning out a satisfactory job.

And Here's How the Story Ends

Here were seven opportunities presented to seven different service stations to handle a repair job that was certainly worth taking in. Incidentally, it would have raised the customer's respect for the car that he was driving. Every car owner is a potential prospect for a new car sometime. The kind of car that he buys is determined very largely by the service he receives on the car that he owns.

But, how does the story end?

Finally, in desperation, Mr. Williams pitched into this job himself. To find out where the damaged part was, he disconnected the Pitman arm. The front wheels turned freely. Obviously there was no binding there. The steering wheel groaned when turned from right to left.

Ah, here must be the trouble!

Disconnecting the steering wheel from the steering gear, it was found that the steering gear was binding badly. The guilty member was removed, disassembled, and it was found that the worm gear shaft was sprung badly. The local service station for another make of car loaned Mr. Williams the use of a press and also the services of a dial gage. By placing the shaft between centers, the sprung portion was located and marked with chalk. This was then placed on a pair of "V" blocks and a shop service press was brought into play. It was but a short time before the



shaft was straightened and after lightly polishing off the few irregularities caused by the use of the press, the shaft was found to fit as well as when new. The car now steers as well as ever.

But — can anyone tell us why seven different organizations refused to accept a job that was worth at least \$15.

It was a job that wasn't so difficult as to require a consultation of service experts nor so unusual

as to tax the ability of any trained mechanic. All it required was a careful inspection to locate the trouble and then an application of ordinary maintenance knowledge. Yet the task was passed up. Was it because of laziness? Was it due to incompetence?

Used Car Yards That Get Attention

Recognizing the value of outdoor display, include automobile dealers have been employing very successfully used car yards for some time. But such yards have become so numerous in most cities that it takes more than a side lot now to make a yard that will cause the public to sit up and take notice. That such yards that really bid for and get attention can be built at small expense is proved true by one operated by the Wroten-Hundley Motor Co., Dodge dealer, San Antonio, Tex.

This particular yard is located on Broadway, adjacent to the company's main salesroom, and is so set off by an attractive fence that it gets more than the usual attention from persons riding or walking past. Over the central entrance to the yard is a clock, lettered with "The Correct Time." To the sides of the clock are the words: "Big Values—Used Cars." The lower panels of the fence have these phrases: "We want your good will," and "We guarantee satisfaction."

Such a fence costs little to build and is attractive. Such a yard is easy for prospective used car purchasers to drift into, which is an advantage over the used car department when housed in a building that makes it more or less inaccessible to certain pertle who might feel timid about going into a place with "swell" front to inquire about a used car worth only a few hundred. The used car yard obviates this drawback, but when it is fenced as the one of Wroten-Hundley at carries a certain dignity and air of seclusion that as bound to recom-

mend it to the public.



Hundley Motor's attractive used car yard

MAKING A GO OF SERVICE PROMOTION

(Continued from page 35)

tool investment during the absence of anyone of responsibility.

Adjacent to this toolroom enclosure is the repair line and this has running its entire length an overhead lifting system connecting it with the tool room, making it very easy for the mechanic to remove any major unit from the car and into the toolroom where the repair work is carried on.

The company requires each of its dealers to operate on a flat rate basis and provides standard flat rate charts with the cost of each operation printed on it so that it can be seen by the customer. In this connection we also have a standard repair order which we advise the dealer to use so that he can properly cost out his expense to the various departments. Service record cards and

new car inspection cards are supplied the dealer at a nominal cost.

The representative has a familiar knowledge of wage incentive systems and as the company advocates either a piece work system or a simplified pooled bonus, he is able to advise the dealer which of these systems is best fitted to meet existing conditions in his particular shop.

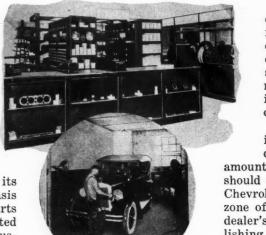
A working knowledge of the application of Duco to service and used cars is required and the representative must be able to supply the dealer with definite information as to what he needs in the way of equipment to be able to carry on this work.

Proper methods for selling service are also a part of the representative's equipment and he is able to outline for the dealer special means of attracting additional volume to his service department when it is found what is needed in order to permit the shop operations to be carried on at a profit.

The company believes that the advertising of service is an effective means of bringing to the attention of Chevrolet owners the need of having their cars properly serviced and the fact that the authorized Chevrolet dealer is best equipped to take care of their work. In past years it was not considered the proper thing to advertise service but now Chevrolet service is being advertised nationally, and supplementing this national advertising are auxiliary advertisements on service published monthly in the Chevrolet Advertising Folder.

Shop administration in all its various phases, particularly when pertaining to the selection and training of service managers and service salesmen, is a very definite function of the representative, for after all upon these two key men very largely depends the success or failure of a dealer's service department, both from the standpoint of satisfied customers and profitable operations.

The service promotion representative has a general knowledge of accounting which enables him to properly analyze dealers' financial statements, using the information he obtains from this analysis in setting the correct selling price of labor and telling the dealer in plain figures how many mechanics he must employ and how many applied hours those mechanics must work to enable the shop to operate at a fair margin of profit after having provided for fixed overhead and labor costs.



A parts display that sells. Modern washing equipment

The parts department is the dealers' second largest source of revenue. As such, it naturally comes in for a very large and definite consideration in our service promotion plan because naturally the net profit can be increased by using sound merchandising principles.

The representative has all the information needed to advise the dealer on the proper location and

amount of space his parts department should occupy, based on the number of Chevrolet cars operating in the dealer's zone of influence. He also assists the dealer's parts man in properly establishing an inventory system for keeping his parts, two types of which are advocated, depending on the volume of parts sold.

The foregoing points brought to your attention deal entirely with the

administrative end of the dealer's service business. There is, however, a major work carried on by the company through its Service Promotion Department, which consists in the proper training of the dealer's shop personnel. This activity is carried on in the field through 25 permanently located service schools. In charge of each school is a permanently located instructor who operates under the jurisdiction of the parts and service manager for the zone in which the school is located. This instructor is a man carefully selected for his mechanical ability and knowledge of conditions.

In these schools three major courses are taught: Mechanical repairing of the automobile; fundamentals of Duco application, whether in service or used car work, and an advanced course in Duco application where we instruct the students how to two-tone, band and stripe a car in such a way that it will present a fine appearance on the used-car showroom floor.

In addition to these three courses, the schools are also used for dealer courses. These dealer courses are being conducted at this time all over the country and the dealers are manifesting a great deal of interest in service promotion work, and through that interest cooperate to a greater extent in sending their men to our service schools and also increasing the efficiency of their own service department. Last year 4500 men went through the service schools and from present prospects this year over 6000 will be trained.

The company desires each of its dealers equipped so that his service station can perform, in the proper way, any operation on the Chevrolet car and to perform it on a flat-rate basis. There are, however, certain situations which have to be faced in various size dealer shops. In other words, a dealer whose net working capital is limited and who has a small contract is unable to stand the financial burden of putting in the whole program at one time. We have, therefore, endeavored to build him up step by step so that in the course of a year or two from the time of the first contact, he will be completely qualified to handle any type service job in the proper way.

At this time the company has 45 service promotion representatives operating in the field and 23 service school instructors.

What are the

Benefits

Flat Rate?

Enumerated by a Man Who Was
Driven to This Method of Shop
Operation by Inability to Collect
Repair Bills Under the PerHour System

By P. E. Chamberlain*

ABOUT 1920 I had just gone through all the grief incident to the pioneering of the Flat Rate in an individual dealer business. Dealers in Ford cars had been using it for some time, but Ford did not furnish the inspiration for me. I was literally driven to it. The Flat Rate was born because, under the per-hour method of handling the customer, we were unable to collect our repair bills.

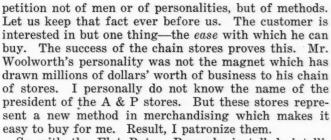
After nearly a year of effort, we succeeded in installing the Flat Rate. After another year of operation we found that it absolutely eliminated our loss, due to uncollectible repair bills. That is to say that this result was accomplished by the Flat Rate itself, in combination with the *intelligent selling* of maintenance service.

The first point I want to make is that the Flat Rate came into existence, not from a desire to improve or change, even, the method of handling work within the

shop itself, but because of the very great necessity of handling the customer differently.

That need still exists, perhaps not as acutely as it did six or seven years ago, but nevertheless we have a long way yet to go with the customer on automotive service matters.

The idea of yesterday is the accomplished fact of today. We are in the era of the New Competition—a comOUITE a number of years ago Motor Age had what is popularly referred to as a vision. This had to do with the then embryonic idea of figuring service work on a Flat Rate basis, and its vast potentialities. The conclusion was maturely reached that here was a system of pricing jobs that merited universal adoption. Forthwith was begun an editorial offensive with national usage of the system as its objective. Articles galore were printed concerning Flat Rate, its application, its benefits and how it should be sold. The verbal army penetrated to the very outposts of the trade and captured shop after shop. Annually for the last four years a comprehensive Flat Rate Chart has been published. And recently Chilton Class Journal Co., publishers of Motor Age, came out with the "Rapid Flat Rate Price List." The cannonading is still on and will continue.



So with the Flat Rate. Properly installed, intelligently sold, it furnishes a method which meets the

buying habits and tendencies of the customer and makes it easy to buy the maintenance and service which every car must have.

P. E. Chamberlain

Candidly I do not know what the Flat Rate has accomplished. By this I mean that, unfortunately, we are a trade without statistics, except as applied to production. I know of no way of determining how many use the Flat Rate, the amount of money it has saved or lost for those who have adopted it, on the part of the 22,000,000 motor vehicle owners.



^{*}Excerpts from a paper presented before the National Automobile Chamber of Commerce Factory Service Managers Forum.

I do know this! Were the Flat Rate to the customer and the contract method of paying mechanics in universal use in the trade, it would result in untold good from the standpoint of shop operating economies, reductions in repair bills to the public and a general uplifting of the maintenance departments of our business.

Frankly, I do not think it is in use to the extent you may imagine. There are some 40,000 general repair shops, comparatively few of which use it. Of the 50,000 car dealers of all kinds in the United States and Canada, I think only those with the best organizations use it.

Many use it in part—still performing a majority of customer service on the old per-hour basis. Many who use the Flat Rate in billing the customer do not pay mechanics on the piece work basis. I have yet to find any organization which is 100 per cent Flat Rate—the "per hour" charge absolutely eliminated.

Because of this lack of real information on the subject, we can say very little as to what it has accomplished from the standpoint of the entire trade. We know that practically all well organized distributors and dealers use both the Flat Rate and pay-by-contract, and that they have greatly profited by their installation. I recall hearing Charles Gambill, Chicago Hupmobile distributor, make the statement at a meeting in Detroit some years ago, that the Flat Rate had been worth \$75,000

I have never run across a dealer who, using the Flat Rate, would ever return to the per-hour method of doing business.

With your permission, I shall mention some of the outstanding benefits of the Flat Rate accruing to those who have installed and sold it intelligently.

You are as familiar with these general benefits as I am and, therefore, I shall devote very little time to them. I want to devote most of the time at my disposal in telling you some of the things that, in my opinion, should be done to secure more general acceptance of the Flat Rate by the trade as a whole.

Partial Use of Little Benefit

I consider that the Flat Rate is of little or no benefit to the shop which uses it but partially and fails to sell it intelligently. If the customer is not sold—or if the operation of the Flat Rate, no matter how efficiently it is installed, is buried from view within the organization—much of its benefits is lost.

In other words, a right policy is not enough. It must be sold intelligently.

Again let me say that certain shops, failing to understand that their problems have their roots in the filth, dirt and inefficiency with which the customer is greeted, seek the Flat Rate as a panacea. When it fails, they condemn it.

Let me repeat. We are in the day of the new competition. The methods of yesterday will not satisfy the customer of today. The Flat Rate is a method. Method has no value, *per se*. Its value lies in the manner in which the method is conceived, with reference to the individual business, the manner in which it is applied

WE are in the era of the New Competition - a competition not of men or of personalities, but of methods. The customer is interested in but one thing—the ease with which he can buy. The success of the chain store proves this. So with the Flat Rate. Properly installed, intelligently sold, it furnishes a method which meets the buying habits and tendencies of the customer and makes it easy to buy the maintenance and service which every car must have.

to that business coordinated to other departments and activities, and the intelligence with which it sold to the public, by word of mouth and through proper publicity.

Returning to the benefits, let me list them as follows, with no attempt to present all of them—just a few of those which are outstanding and

most apparent:

First—The Flat Rate has benefited the trade because it has proved beyond a shadow of a doubt that it is possible to maintain automobiles on a scientific, efficient basis. This awakening is probably its greatest advantage. It shows that the future has great possibilities along this line.

Second—It has made the pay-by-contract method of paying mechanics possible. And this, in turn, I regard as a great forward step in making possible the final public acceptance of the automobile mechanic as a skilled mechanic—not as the "grease hound" of the early days of the business. I do not say that this result has been fully accomplished but that it is forecast as a future acomplishment because of the pay-by-contract idea.

Guess Work Eliminated

Third—Flat Rate makes possible the elimination of guess work as to the cost of repairing or conditioning used cars for resale. This is more important than you may think.

Fourth—It has reduced shop waste while, at the same time, increasing sales volume. With the amount to be collected from the customer definitely fixed, efficiency has been forced upon shop management. More profit has resulted, even when volume has remained stationary. As an evidence of this, Frank Tate, Dodge Brothers' distributor at St. Louis, tells me that he has reduced the size of his shop parts counter from twelve feet to five feet, because of the new system of paying mechanics by the job. Think that over for a moment. Another shop changed \$12,000 annual loss to a \$12,000 annual profit—a differential of \$24,000 because of the Flat Rate.

Fifth—It has eliminated "come back work," where handled properly and "come back work" was always a contingent liability offsetting shop profits, before the Flat Rate came along.

I shall not continue with a list of benefits, nor include any of those which accrue to the customer, when the Flat Rate is properly installed and intelligently sold—benefits which have to do with lowered maintenance costs, prompt payment of bills, elimination of arguments.

Those who handle maintenance work—service men, shop foremen, mechanics, etc.—are essentially technical men, not salesmen. Therefore they have more of the technical operating angels than those which have to do directly with handling the customer smoothly and in a way that will please him. This is the reason, I think, that the trade has been more concerned with technical matters in connection with the installation and operation of the Flat Rate than with selling it to the customers intelligently.

(Turn to page 44, please)

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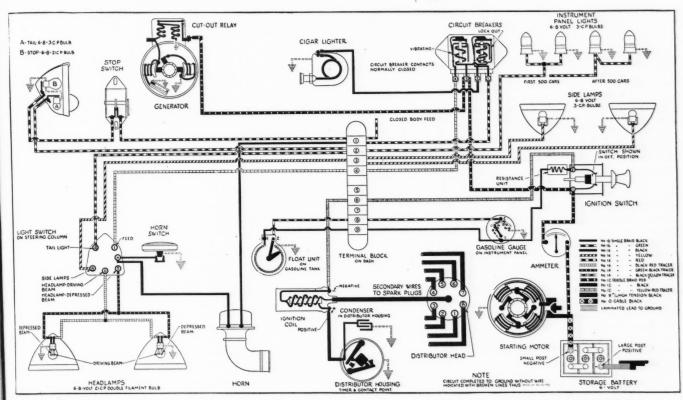
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Electrical Data on the LaSalle

Delco-Remy System Used is Similar to That of Model 314 Cadillac Circuit Breakers Replace Fuses



HE Delco-Remy generating, starting and lighting system of the La Salle car is similar in many respects to the electrical system of the model 314 Cadillac.

The La Salle generator is model 370. The direction of rotation is counterclockwise looking at the commutator The generator current is regulated by means of a third brush. Adjustment of this brush is secured by removing the commutator cover strap and moving the third brush by hand. Shifting the third brush in a counterclockwise direction increases the charging rate and moving it in the opposite direction decreases the charging rate. A clamping screw must be loosened in order to move this brush by hand, and after the desired adjustment is obtained it should be tightened again.

With a maximum third-brush setting the generator output is 22 amp. at 8.6 volts. This is reached at 1400 to 1600 r.p.m. of the generator armature. The brush tension is 16 to 20 oz. on each brush. This generator is of the two-pole type and has a thermostatic control which protects the generator and prevents excessive temperature. This thermostat is set to open at 175 deg. and requires no attention.

	Cold Tests	
Amp.	Volts	R.P.M.
6	7.8	600
16	8.0	1000

	Volts-175	
Amp.	deg. F.	R.P.M.
5	6.9	600
14	7.8	1000

The starting motor used is model 349 and is connected to the engine by means of a Bendix drive. The direction of rotation is clockwise, looking at the commutator end. The starter brush tension is 2½ to 2½ lb. Test data on the starter is as follows:

Torque 0 lb. ft. Running free 5 60
19 lb. ft. Locked 3 450
The ignition system uses coil model 2195 and distributor model 4016. While this distributor is mechanically the same as the Cadillac distributor it is not interchangeable with it. The breaker contact separates .0225 to .0275 in. These points are made of tungsten, and may be resurfaced on a medium hard oil stone. The moving arm spring tension should be 16 to 20 oz.

The ignition current drawn by the coil is 4.8 amp. at 6 volts when the coil and all wiring is cold with the engine stopped. The distributor is semi-automatic with a manual advance of 20 deg. of crankshaft travel and an automatic advance of 30 deg., which begins at 600 r.p.m., reaching the maximum advance of 30 deg. at 2800 r.p.m. of the engine. One set of breaker contacts begins to separate as piston No. 1 is on compression stroke, and open when the flywheel mark "IG/A-1-5" in.

is opposite the indicator on the flywheel case. This point is %-in. on the flywheel before top dead center. The manual advance lever must be in the fully advanced position when making this check. The breaker has two sets of contact opening at intervals of 45 deg., corresponding to 90 deg. of crankshaft rotation. The second set of contact should separate when the flywheel mark "IG/A-2-6" is opposite the indicator. The firing order is 1L-4R-4L-2L-3R-3L-2R-1R. The spark plugs used are %-18 S.A.E. and should be set with a gap of .032 in.

Two circuit breakers are used in the system in place of fuses. One is of the vibrating type, and while it requires 25 amp. to start it vibrating, 10-15 amp. will cause it to continue. A lock-out circuit breaker protects the horn, backing lamp and signal lamp circuit. A current of 25-30 amp. causes this to open the circuit.

\$2,075 in Cash

M ORE than two thousand dollars will be awarded to the most popular and efficient jobber salesmen in the nine U. S. A. trading zones. Read the conditions of contest in another part of this issue and boost your favorite salesman by clipping the voting coupon and sending it promptly to the contest editor of Motor World Wholesale.

Lot Next to Good Hotel Looks Like Storage Garage Location

By Tom Wilder

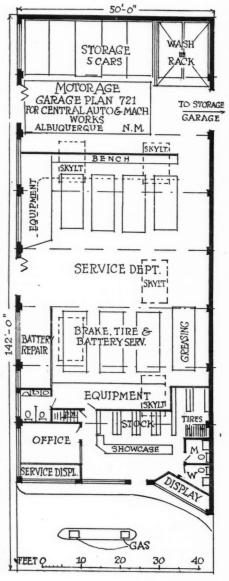
WE are planning to build a 50 x 142 ft. garage with a filling station across the corner on a 110 x 142 ft. station across the corner with an office and display room for tires, etc., right back of it, also a battery station, wash rack, shop, Curtis or Larkin-Thuro lift, a pit or rack for greasing cars, and Interstate or Cowdrey brake testing machine, overhead track and chain fall, 1000 sq. ft. basement for storing tires plus space for heating plant, all located to the best advantage.

How much storage space would be lost to put the rear door across the corner instead of in the middle of the rear wall? How large should the filling station be? How wide should the driveways be? What part of the basement should the heating plant be located, in the rear or in the front where the night man could have quick and easy access to it from the office and filling station, so he wouldn't be away very long? Which is the best for greasing, a lift, pit or rack?

We are enclosing a rough sketch O showing our location, etc., and any assistance you can give us will be greatly appreciated.—Central Auto & Machine Works, 521 West Central Ave., Al-

buquerque, N. M.

I F your building were to be 60 ft. wide instead of 50 ft., or if it could be extended to 55 or 58 ft., the slight increase would make a much better arrangement possible. Service work with a bench requires a space 20 ft. wide for medium-sized cars and with the bench along the street side and the cars facing the bench, a 20-ft, aisle could be maintained and still leave 15 ft. for storage on the other side if the building were 57 ft. wide. With only 50 ft., however, the aisle would be too narrow to handle cars with any degree



of safety. By placing the benches between the cars as shown on the pencil tracing which we are mailing you, a slight gain in storage capacity could be made but it would be so slight as to be hardly worth while and we would not consider the arrangement quite so good as the one shown, although it has its advantages.

What you should do is use your other 50-ft. lot for a storage garage. With your location next to the hotel, unless there is another garage handy, you should be able to do a good business in

With our arrangement there would be no object in a corner entrance, but if you were using the space for storage two spaces, it will be apparent to you, would be sacrificed.

The filling station we have shown is ample for all ordinary purposes but it could be a little longer with good

results.

The location of the heating plant is unimportant as regards the plant and its operation. Your ideas concerning the night man are exceedingly well thought out and there is no question but that they decide the matter.

We would be in favor of a pit or a lift for greasing, but a rack with incline is out of the question because of the space consumed by the incline. A lift would be more expensive in first cost but would probably save labor and be an economy in the long run, if power for operation were not too much of a factor.

Readers of Motor Age are reminded that the facilities of this architectural department are at their disposal any time they are confronted with problems of a building nature. This is expert service, guided by the most efficient automotive practices.

Federal Truck Adds Three New Six-Cylinder Models

HREE new six-cylinder models have just been announced by the Federal Truck Co. These include a 1-ton, double-gear truck, a 2-ton worm-drive job and a 2-ton bevel gear model. Prices on these have not been announced. Officials of the Federal company state that the prices will represent the lowest ever set by their organization on six-cylinder trucks.

One of the interesting features of the design of these three models is complete interchangeability of engine, as either a Continental six-cylinder or the Waukesha four-cylinder can be used. These engines are all carried on three-point suspension.

One of the models known as the Scout Six has a wheelbase of 124 in. and a capacity of 1 ton. The loading space of 91 in. is provided in back of the seat. At additional cost a 12 in. increase in wheelbase is available.

Standard wheelbase of the 2-ton models, which differ mainly in the type of rear axle drive used, is 143 in., which gives a loading space of 119 in. in back of the cab. Special wheelbases of 155 in., 168 and 180 in. are also available at extra cost, while a tractor model with a 132 in. wheelbase is likewise offered.

The standard gear ratio of the 1-ton truck is 4 5/9 to 1, while both of the 2-ton models have a 6 to 1 ratio.

\$2,075.00

Popularity Contest

for Wholesale Salesmen



Help Your Favorite to Win a Part of the Big Prize Award to be Divided Among 27 of the Automotive Industry's Most Efficient and Popular Wholesale Salesmen

I N the Motor World Wholesale contest for popular salesmen every ballot cast will be a boost for that worth-while man who regularly calls upon you in the interest of his jobber employer.

Every retailer—dealer, garage owner and service station proprietor—is entitled to vote. Voting coupons are in all issues of *Motor Age, Automobile Trade Journal, Commercial Car Journal* and *Chilton Catalog and Directory*, beginning June 30 and ending Oct. 6, 1927.

Each of the nine trading zones in the U.S. will have its separate contests.

The three most popular and efficient salesmen in each zone will receive cash prizes of \$100.00, \$50.00 and \$25.00, in accordance with the number of votes awarded them.

And there will be a master prize of an additional \$500.00 to the zone first prize winner who receives the most votes of any wholesale salesman in any of the nine zones. Hence this lucky man will win \$600 in cash.

In event of tie vote in any zone, or for the master prize, the tieing candidates will receive maximum prizes to which their votes entitle them.

Use the coupon on this page. Fill it in and send it promptly to the Contest Editor of Motor World Wholesale.

HERE ARE THE ZONES:

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atio.

- NEW ENGLAND: Maine, New Hampshire, Vermont, Rhode Island, Massachusetts, Connecticut.
- MIDDLE ATLANTIC: New York, New Jersey, Pennsylvania.
- SOUTH ATLANTIC: Delaware, Maryland, District of Columbia, Virginia, West Virginia, North Carolina, South Carolina, Georgia, Florida.
- EAST NORTH CENTRAL: Ohio, Indiana, Illinois, Michigan, Wisconsin.

- EAST SOUTH CENTRAL: Kentucky, Tennessee, Alabama, Mississippi.
- WEST NORTH CENTRAL: Minnesota, Iowa, Missouri, North Dakota, South Dakota, Nebraska, Kansas. WEST SOUTH CENTRAL: Arkansas, Louisiana, Oklahoma, Toyas
- MOUNTAIN: Montana, Idaho, Wyoming, Colorado, New Mexico, Arizona, Utah, Nevada.
- PACIFIC: Washington, Oregon, California.

—Use This Coupon—

MOTOR WORLD WHOLESALE Popularity Contest for Wholesale Salesmen

Contest Editor Motor World Wholesale Chestnut and 56th Sts., Philadelphia

In the wholesale automotive salesmen's popularity and efficiency contest I vote for:

Name of salesman

Name of his firm

His firm's address

Your signature

Your firm name

M. A., July 21-This ballot is for ONE vote.

WHAT ARE THE BENEFITS OF FLAT RATE

-(Continued from page 40)-

During the past three years I have crossed the United States by automobile three times. Naturally, I have had occasion to drive into many shops in widely scattered sections from the Atlantic to the Pacific. I find that some of the best of them content themselves with posting a list of the Flat Rate operations in the service station—perhaps one furnished by the factory. But the methods of receiving me—the customer, the manner of taking my order, the lack of explaining and selling me on the method, the way in which I am billed—all these have changed very little in the past five years.

As a result, the average automobile owner knows very little about the Flat Rate. He still carries the idea that the repair shop is organized to "gyp" him, that the mechanic loafs on his job, that his bill is too high. In other words, the original reason for the Flat Rate has been largely overlooked—its possible advantages have not fully accrued to those who use it. There are exceptions to this, of course—a great many exceptions. The rule is, however, as stated, I think.

Before the Flat Rate can ever become universal in the trade, there must be considerable right thinking on the part of you gentlemen who control the situation.

Half Measures Will Not Do

In the first place you must reach the absolute conviction that half measures will not do—that the entire service or maintenance part of the car dealer's business must be handled on the Flat Rate basis. There should be no "per-hour" thought in the entire service scheme of things. Leave the "per-hour" as a basis of calculation for accountants, if you want to, but eliminate it from transactions with the customer or the mechanic.

Everything that is done to an automobile, from putting water in the battery, a simple adjustment of the carburetor to a complete rebuilding—whether it be a new car for its first inspection or a wreck which has been towed in—can be done on the Flat Rate basis.

Until you eliminate the "per-hour" thought entirely you will never reach the ideal of automotive service. Whether it takes ten minutes or ten hours to repair something has absolutely nothing to do with the charge to the customer—fundamentally. The customer's charge must be based upon cost, plus overhead, plus profit, with reasonable efficiency of operation and equipment recognized as due the customer who pays the bill.

The dentist who charged me \$16 after I had been in his chair a total of two hours has eliminated the "perhour" idea. He could not have sold me on paying his bill at the rate of \$8 per hour.

We have built up the idea in the customer's mind that he shall pay so much per hour. This must be changed. He must understand that he pays by the job—a contract, whereby he is furnished with an exact estimate of the cost, gives his "go-ahead" and is billed accordingly. If he objects to the estimate, the shop must be able to sell the basic policy and justify costs and overheads.

Not until you gentlemen accept the fundamental thought that repair departments are entitled to make money, will you ever fully solve the problem of service as far as customer satisfaction is concerned, because you will always fear the sale of a *price* (for a repair job) sufficient to cover costs, overheads and profits.

Some more right thinking has to do with the character of your dealers' businesses. Through the years you have been pleased to consider them as exclusive dealers, perhaps, in your own make of cars. As a matter

of fact there are no exclusive dealers. Every dealer handles all makes of cars. Some—a great minority when the entire trade is considered—handle only one line of new cars. But practically all handle all makes of used cars and work on them in their shops.

Thus, you have furnished Flat Rate schedules for your own make of cars. Assuming that the dealer adopted this schedule 100 per cent he must still work on all the other makes of cars on a per-hour basis. This interferes with 100 per cent Flat Work and with 100 per cent pay-by-contract.

Perhaps you think you are not interested in other makes. That is where some right thinking is necessary. Thought must precede an idea and an idea must precede execution. So long as you think of your dealer as exclusively a dealer in your own make, just so long will the universal adoption of the Flat Rate be retarded.

What I am leading to is this: There should be some really intelligent action within the trade in connection with better methods of shop practice.

I think the past history of the Flat Rate has served to prove that as a shop method it is both feasible and practical. I include the payment of mechanics on the contract basis. We are not so much interested in what has gone before as what can come in the future, as a result of the experience during the past five years with these new methods.

The test is always as to whether a method fits the buying tendencies and habits of the customer who pays the bill. That was the thought that gave birth to the Flat Rate. Time has proven it, to that extent, at least.

Now, what of the future?

If the Flat Rate is good—if the service end of our business is important to new car sales (and I think no one disputes these things now-a-days)—then it logically follows that a great impetus can be given to this important end of the business by some broad-minded action upon the part of the entire trade, having for its purpose the universal adoption of the Flat Rate and the contract method of paying mechanics.



Front compartment of leather upholstered Studebaker custom sedan listing at \$1,335

New Accessories and Devices

Display Case

THIS new steel case manufactured by the Lyon Metallic Mfg. Co., Aurora, Ill., makes a compelling display.

The beautifully grained natural



walnut, mahogany and oak exterior finishes stand out as strikingly against the clean white interiors as do the accessories inside. It is also offered in white outside and inside, gray outside and inside, or olive green outside and white inside. The doors can be locked. Lights can easily be installed in the counter by a local electrician.

Ajax Growler

THIS device, known as Ajax Growler, No. A-1, is manufactured by the Ajax Electric Co., Kalamazoo, Mich. It

is a complete and powerful instrument which quickly locates shorts, open and grounds in both starting motor and generator armatures. It is



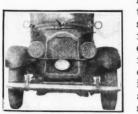
properly designed and of excellent con-

struction, yet low in price.

Equipment consists of an extension cord, indicating switch, hack saw blade and the entire growler is mounted on a hardwood base. Shipping weight is 11 lb. List price, complete, as shown in the illustration, is \$8.50.

S. & M. Oval-Lite

THIS light, manufactured by the S. & M. Lamp Co., Los Angeles, Cal., is designed to be mounted as shown



in the illustration. It has a spread of 100 ft. wide at a distance of 75 ft. from the car. The beam is produced by a specially designed reflector, patented

by the S. & M. Lamp Co., and is dis-

tributed by a scientifically correct lens without any loss of power.

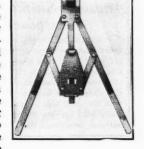
The lamp is solidly constructed to withstand long usage.

Eureka Tire Spreader

THE Eureka Tire Spreader is simple, easy to operate, strongly made and low in price.

This article, manufactured by the

Shapiro Mfg. Co. of Philadelphia, is a most effective instrument for thorough examination and repair of tire casings. On e operation spreads the casing, making it possible to inspect the tire by sliding the



spreader from one position to another without removing it from the casing.

The best strip steel, rust-proofed to prolong its life, is used in the construction of this stool, which is available in two sizes, No. 1 Universal, for small size tires (both balloon and regular) listing at \$1.50; and No. 2 Super-Duty, for larger sizes, listing at \$3.50.

Universal Rim Wrench

HE Husky Wrench Co., Milwaukee, The Husky wrench con, has added to its line a new heavyduty tire wrench for garages and tire shops. This wrench has a revolving socket head with four sockets-% in., 11/16 in., ¾ in. and % in. hex, to take care of rim nuts on all vehicles.

The wrench head is drop-forged from high carbon steel. Hexagon openings are broached exactly 1/64 in. oversize and are heat-treated. The handle of



the wrench is made of 9/16 in. hard carbon steel for hard usage. It will neither break nor bend. Full size Hexagon swivel handles give a perfect grip, and there is a center grip to increase the speed. Finish is nickel plate. Socket head can be replaced if worn out or broken, merely on application to the factory.

A feature of this wrench is the fact that a 300 per cent increase of leverage may be had without removing the wrench from the nut, by turning the

Radi-O-Lite

THIS light is designed to be mounted ahead of the radiator. It has a flexible shaft connecting to the instrument board with a controlling knob,



mounted within easy reach of the driver. It may be turned in any direction for reading street signs, house numbers, and is invaluable when approaching or passing through detours. The rays fall close in front for city driving and may be set to make night driving on country roads convenient.

The ease with which the light may be turned in any direction either sidewise or up and down, merely by a touch of the finger, is a feature of its construction.

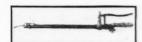
It is strongly made to last and is finished in enduring materials.

The lamp and its controlling mechanism is a self-contained weather-proof unit. The reflector is scientifically correct in construction and is thoroughly sealed in order to keep it clean and brilliant. Switch and electrical fittings are of the best design and quality.

Red Imp Gun

THE dual valve of the Quest Red Imp Gum gives the operator control of both water and air in heavy pressure washing. The valve is opened by the operator pressing a lever handle on the grip of the gun, the supply being automatically cut off by the release of the operator's grip. Two thumb screws make adjustment a simple matter.

The syphon ejecting head is so designed as to make a high powered mixture of air and water possible at the point of distribution. This powerful syphon will eject solution from an open tank, enabling the operator to use a



soap solution for cleaning cars and scrubbing floors, etc.; or a strong, hot alkali solution to strip paint or lubricant from motor parts in garage rehandle at a right angle to the socket. pair work and machinery cleaning.



Questions and Answers on Dealers' Problems

Flint Rear Axle and Oiling Problems

At 25 milles an hour the oil pressure gage on a 1924, Model 55 Flint car, reads 10. Is this enough? and if not, how can the pressure be raised? Charles L. Carroll, 4741 Northland Ave., St. Louis, Mo.

O IL pressure depends on a number of things, such as the body of the oil and the fit of the different parts, and also on the heat of the engine. An indication of 10 lb. shows that the oil is circulating. If your bearings are loose, the oil circulates faster and you still have ample lubrication but your pressure reading is lower. A reading of 10 lb. is sufficient in your case.

Can the pinion on this model be adjusted without taking down the entire rear end?

Yes, the pinion can be adjusted by adding or removing shims at the back of the pinion bearing housing according to whether the pinion should be moved out or moved deeper into mesh.

Stock Car Races May Settle This

Will you please give us the following information. Engine speed in r.p.m. of the 1927 Oldsmobile Six, 1927 Standard Buick Six and 1927 Master Buick Six. A. B. Fiedler, Trempealeau, Wis.

WE are very sorry that the factories do not supply the maximum speed of their different engines. Also, due to the many variables entering into the maximum speed that a car can develop on the road, we are unable to say just which of these cars is the fastest. The increase in popularity of stock car racing may settle these questions eventually, however.

At the present time we would suggest that you make use of the specifications table which is a regular feature of each issue of Motor Age. Here you can find the tire size and gear ratio of all of the American made cars that are distributed on a national basis. From that, you can get some interesting comparative data regarding the number of engine r.p.m.'s turned up by any car at any particular speed. To do that, first take the tire size, that is, the tire diameter, and multiply that by 3.1416. That will give the total distance traveled in one revolution of the rear wheel. If this was figured out in inches, convert it to feet and divide it into 5280 ft., which equals one mile. This will give the number of rear wheel revolutions in one mile. Then, referring to the information on rear axles, look up the gear ratio of the car and multiply the number of wheel revolutions per mile by the gear ratio, which will give the number of engine revolutions turned in making the car go one mile.

If the car is running at 60 miles an hour this would be a mile a minute or the number of revolutions in the mile would then be the number of r.p.m.'s. the number of r.p.m.'s would be just If the car is running 30 miles an hour, half that, and so on for any speed at which you wish to compare engine r.p.m.'s.

Another Shimmy Problem Disposed Of

I am having trouble with a 1926 Oakland sedan that came into the shop recently. This car has been driven about 7000 miles and the wheels shimmy until it is almost impossible to drive it. I have checked the alignment of the wheels and have also tried using wedges with the thick side toward the back of the car and placed between the front axle and springs, but this doesn't do much good. The steering gear is tight and in good condition. Marion Burkhart, 1208 W. Ninth St., Coffeyville, Kan.

WHILE you say that you have adjusted the front system correctly. we would suggest that you check up according to the illustration shown here. In this figure the dimension "B" should be 3/16 in. less than the dimension at "A." While this figure shows the dimensions taken on the inside of the tire, another good way of doing this work is to jack up the front of the car and spin the wheels. While the wheels are spinning, hold a piece of chalk against the center of the tread. This will make a straight streak around the tire. Then drop the car from the jack and measure, as at "A" and "B," except that the measurement will be from the center of the tread on one tire to the center of the tread on the other tire. This is a very exact method of checking the toe-in.

We would suggest that you check the wheels for pitch or camber by means of a carpenter's square or regular wheel aligning gage. The latter is to be preferred but, in its absence, you can get by with a carpenter's square. The whee's should incline out a total of 1 3/16 in. as shown in the illustration. Both front wheels should be the same on this figure.

The matter of caster is quite important, though the king-pins on this car incline only one degree toward the rear. However, it may be that the front springs have been excessively lubricated or have broken or weak leaves, which would permit them to sag and thus reverse the caster effect. Another possibility is that the wheels are slightly out of balance. This condition would only affect the car at high speed, that is, at speeds of 35 miles an hour or more. To check for this condition jack the front end of the car up so that the wheels are out of contact with the road. See that the front bearings are clean and so carefully adjust it that there is no appreciable shake to them but, at the same time, there should be absolutely no binding. If, in this position with the brakes so that they are not dragging, the wheels have any inclination to settle, balance weight must be secured at the rims until the wheels have no settling inclination.

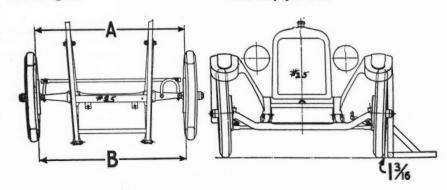
Another possible cause of shimmying which is not very likely is that one brake is dragging and thus upsetting the rolling resistance of the front wheels. Of course unequally inflated front tires will cause uneven rolling resistance with the road, which may also tend to cause shimmying.

Have You Met This One?

I have a customer with a Flint touring car whose oil pump seems to be giving trouble. The car runs perfectly in every way and at from 20 to 30 miles an hour will show a pressure of 25 to 30 lb., but at 40 miles an hour it drops back to 20 lb. and the faster you go the weaker it gets. There doesn't seem to be any leak in the line and the bearings have just been taken up. The owner claims that this has always acted this way. What can be causing this trouble. G. H. Hall Garage, Marion, Ind.

WE must frankly admit that this is a puzzler to us unless you have an air leak in the oil pump and the pump is not completely covered with oil.

We shall be pleased to hear the suggestions of MOTOR AGE readers on this problem, and hope that some of them can help you out.



Performance Depends on Ring Installation

We have been having considerable argument about piston rings and wonder if you could clear up some points for us. It seems that on a great many high compression engines, after installing new rings and grinding valves, that the cars do not perform as well as before. Some of the mechanics are laying this trouble to the rings not having enough tension. Now what we would like to know is the advantages, disadvantages, results as to cylinder wear, etc., of rings with strong and weak tension and of hard and soft rings, actual laboratory reports preferred. type of rings (names if possible) should be used in replacing rings in the present day, small bore, high compression engine?-Ballard Auto Repair Shop, Brawley, Calif.

WE do not believe that the complaint is due to poor rings so much as expecting rings to do a job for which they are not designed. What we mean is that all too frequently an engine that needs to be reground or to have its cylinder bores honed and oversize pistons fitted is sent out of the shop with a valve grind and ring replacement job. Naturally, no ring is going to give satisfaction under such circumstances.

In selecting rings it is of great importance to order rings that are of proper diameter for the cylinders to be fitted. We have frequently seen mechanics who would take a ring that is, let us say, suitable for a .010 oversize cylinder, and by considerable filing, cause the ring to fit the wall after a fashion. The ring so filed will not be round and, as a consequence, will not make good contact with the wall. It will, in addition, have excessive wall pressure in some places and will result in uneven wearing of the wall. It is easy to see that rings that are considerably harder than the cylinder walls will cause considerable wall wear. It is common practice among the well known piston ring manufacturers to use cast iron for their rings. Cylinder blocks being of the same or slightly harder material, the wear on the blocks is not so great as would be the case if harder rings were used. The ring manufacturers determine the amount of tension the ring should have and all you can do with regard to ring tension is to select a ring that is made by a manufacturer of high standing.

You will appreciate that with so many good makes of rings on the market it would be impossible for us to recommend any specific brand, as it is quite likely that we would overlook some worthy manufacturer.

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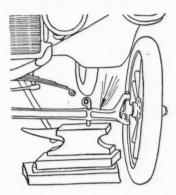
Sticking Valves Burn Up

I would like to know why the valves on my 1926 six-cylinder Packard burn out at frequent intervals and why they stick so tightly that they can hardly be removed. The carburetor is set a little rich, the clearance is perfect, yet these valves will burn out at the rate of one every 500 miles. I have removed the oil rectifier, but this does not seem to make any difference. Harry E. Commons, Freeport, Illl.

SHOP KINKS

Ideas that have proved useful

I N removing a spring perch from a Ford axle I jack up the axle and put an anvil under the spring perch, the nut being removed. The wheel should clear the floor a couple of inches. Striking the axle next to the spring perch with a sledge hammer will quickly remove the perch .-- A. S. Steensland, Lake Andres, S. D.



Readers of MOTOR AGE are invited to submit ideas that they have found useful in doing some particular service job in the shop in a better or quicker way. For each one published \$2.00 will be paid. Whenever possible the idea should be accompanied by a sketch or diagram from which a drawing can be made.

IT is apparent that your two problems of valve sticking and burning are connected. We would suggest that you remove all valves and polish out the valve guides with a special wire brush type of valve guide cleaner that is driven by a 1/4-in. electric drill. Then have all of the valves refaced at 45 deg. on a regular valve refacing machine. While this is being done watch carefully for sprung or bent valve stems. Then, reseat the block with a 45 deg. reamer until no pits show in the seat and then narrow down the seat by using a 15 deg. and 70 deg. reamer until the seat is 1/16-in. wide. The valves should drop freely into place with their own weight. A light lapping in of the valves will then make a gas tight joint. Of course, the valve stems should be carefully polished off and any carbon accumulation on the under side of the valve head should be removed. It would also be well to check the strength of the valve springs against a new valve spring and if it is found that your old springs are weak or short, they should all be replaced. Burning of valves on this model is not common and we, therefore, feel

that a valve grinding job done in accordance with the foregoing instructions, will permanently cure your trouble. The oil rectifier has no connection with valves burning out and we would suggest that you connect the rectifier up again.

Engine, Clutch, Transmission Need Service

A four-cylinder Essex 1923 model had new clutch plates installed and since then the clutch dragged causing clashing of gears when shifting from neutral to low. The car has been driven over 1000 miles since this work was done, and the condition has improved slightly, but is still bad. Roy's Garage, 1548 Thirteenth Street, Milwaukee, Wis.

T is possible that you installed a set of clutch plates that have corks that have not been properly trimmed off and which as a consequence, leave insufficient clearance between the plates which results in dragging. Slipping

the clutch a bit may help.

Another possibility which you can easily check up on, is that too heavy a clutch oil was used. You will probably find that a 50-50 mixture of kerosene and light engine oil, will prove satisfactory. We would recommend that you try flushing out the clutch with kerosene and then drain the old kerosene and dirt out and refill with the suggested mixture.

The transmission main shaft also has excessive end play and causes the gears to slip out

of mesh occasionally.

It would be well to tear this down and eliminate the end play before damage is done to the gears by slipping out of mesh.

This same car has a very sharp knock at 30 miles an hour. The rods and main are tight. This knock is more noticeable at speeds above 30 miles an hour, and at speeds below that it entirely disappears. What do you suppose this can be, as I expect the car in in a few days to have this looked into?

This knock sounds to us very much as though your pistons were loose, though of course, it is impossible to say definitely that this is the case. Aluminum-alloy pistons of the splitskirt type were standard equipment in this model and it is quite likely that they need replacing. When doing this work, we would suggest that you test the cylinder walls with a dial gage, or micrometer, and if the walls have any ridges, or if they are out of round more than .002 or .003, or tapered by that amount, we would recommend that you hone or grind them to remove these irregularities.

Needs New Core-Plug

Please tell me what the slight knocking or slapping noise is in the engines of the Model 70 Willys-Knight cars. The noise I refer to is only noticeable when the car is standing still and the engine is idling. have noticed this in a number of these models but am not certain what it is. Also, please give me information on how to stop the oil leak in the back main bearing on this car. -Carl Schenk, 1117 Concert St., Keokuk,

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THE slight slapping sound that you refer to is probably due to either a sticking junk ring, or else to the pistons passing the ports. It is quite likely that this sound will entirely disappear of its own accord as the engine wears in. If you will examine the illustration that we are showing you will probably get an idea of where the oil is coming from at the rear main bearing. We greatly doubt if it is actually coming from the bearing, but feel certain that it is coming from the core-plug at the end of the sleeve shaft which, in the illustration, appears to be immediately over the rear main bearing. This trouble has developed on a number fo these cars and we would suggest that you either tighten the old plug by hitting it a sharp tap in the center with a hammer, or else install a new plug in the same manner.

Cocked Head Causes Knock

A 1923 Willys-Knight four-cylinder car had the sleeves reground, new piston assembly and new sleeve connecting links and pins installed, and still it has a peculiar, uncertain knock which, at times, is quite loud. The knock can be shorted out and it sounds to be in the upper end of No. 3 cylinder.

What do you think is the cause and can you suggest a remedy? This car is coming into our shop soon and has run 1000 miles since it was overhauled, and we would like to have your comments before going at this job. Coliseum Garage, 2700 First Ave., Hibbing, Minn.

WE are at a loss to know what you mean by "regrinding" your sleeves -unless you mean merely to grind off a shoulder which sometimes forms at the end. Obviously to regrind the inside and outside of both sleeves would produce excessive looseness. If your trouble is not due to a wrist pin, and you will know from the work you did when you had the engine disassembled whether this is a possibility or not, the only remaining cause of the trouble would be a cocked cylinder head. By this we mean that one nut on the cylinder head has been drawn down tight before the others were pulled down with the result that the head has taken a slight set which, in turn, has affected the junk ring and the outer sleeve is binding against the junk ring.

Installing Cadillac . ons

I would like to know just how yo. I the rods back in the Model 314 Cadillac. That is, what position does the piston pin lock take and to what side does the long side of the piston pin boss go. Does this differ from the "63" construction and in what way? H. D. Williams, Poncia City, Okla.

THE pistons and rods are so assembled in the Cadillac engine that the long piston boss is toward the nearest main bearing. That is, the long piston boss in No. 1 piston would be headed toward the front main bearing and the long piston boss in the No. 8 piston would be pointed toward the rear main bearing, etc.

A Puzzle That is Very Easily Solved

I have a Buick at the shop I am working in that has a knock similar to a push rod roller. We ground the valves, checked the valve clearance, installed new rollers and pins in the push-rod assembly. We also examined all wrist pins and pistons and they are O. K. We installed new timing gears which took out a clattering noise, but still there is this distinct clicking knock. It seems that the sound is on the camshaft near No. 4 or No. 5 cylinders. We examined all cam bearings, took up the main and connecting rods which, however, were not very loose. This engine has only run 10,000 miles and the knock has gradually developed.

We only have a small garage, but have learned that some of the larger garages in this part of the northwest, have also failed to determine what causes this peculiar knock. This knock is most noticeable when the motor idles slowly, but also knocks faster according to the speed of the engine. The crankshaft has 1/64 in. end play. Could this be causing the knock? It always sounds to me as though the rollers on each of the camshafts were making the noise, but as we renewed all of them and rechecked them for being true, and easy rolling, this does not seem possible. If the guides that hold these pushrods are worn over .003 in. would this cause a knock?

We have five or six Buicks around here and they all have the same knock. Most of the owners think it will cost too much to take this knock out at some of the large factory branches, so they just continue to run them as they are. In another Buick engine which has the same knock, we installed new timing gears, a new bronze gear that drives the oil pump and runs against the camshaft; and we also took up the connecting rods and main bearings, ground the valves, checked all alignment of connecting rods and examined all wrist pins and rings, but still when we started up the engine the same knock was there. We also checked the ignition and valve timing, which is O. K. This engine also had 1/16 in. end play in the crankshaft. Using a sounding rod the knock seems to be loudest near the water pump housing, so we disconnected the water pump and still the knock remains. We were very careful in installing the timing gears not to burr any of the teeth. These engines all seem to be very quiet when they are new, but after about 10,000 to 12,000 miles they develop this knock and become rather noisy. Anything that you can suggest will be greatly appreciated.-Washington Serviceman

W E are quite certain that the knock which you refer to is caused by a weak push rod return spring. We have run into this difficulty before, just as you have described it and the trouble was easily and economically overcome by installing new push rod return springs. This would not be an expensive thing for the owners to have done in your garage, or in fact in the large factory service stations, and would make the use of their cars much more enjoyable.

Causes of Jerking

We have a Model 50 Chrysler that pulls fine and has good speed, but at times will jerk badly. This jerking is most likely to develop when the car is running along between 10 and 15 miles an hour. We installed new rings, ground the valves, cleaned the carburetor, checked the points, changed the spark plug wires and tested the plugs. What can be causing the trouble?—Ohio Subscriber

E would suggest that you look at the ignition breaker points and see that the spring that operates the moving point is in good condition and that the points meet squarely. The surfaces should be clean and free of pits. If you have a weak coil or condenser you can probably detect it by removing the high-tension wire from one plug while the engine is running and holding it about 1/8 to 3/16 in. away from the engine. If the spark jumps irregularly, the trouble is at the point, but if the spark refuses to jump a 3/16 in. air gap, it is quite likely that the condenser or coil is weak and it will be worth your while to try a new one. We assume from the work that you have done that the compression is uniform in all cylinders. However, if it varies more than 3 lb. in any cylinder you should check the valves or piston and ring fit as required, and thus obtain uniform compression.

Paying Race Drivers

In line with your recent suggestion I have given up the idea of becoming a dirt track racing driver. This is because of difficulty I have in hearing. I will hire a friend of mine to pilot my racing car for me at dirt track meets. Will you please tell me how I should pay him for this service? What protection can I get in the way of insurance to cover me in the event he meets with a fatal accident. Also, please tell me how to join the local dirt track racing club. William Hershal Keesee, 1571 Sonome Ave., Long Beach, Calif.

HE amount that you pay your THE amount that you pay tween yourselves. There is no fixed figure for this service. However, we know of many drivers who receive \$50 a week and 10 per cent of all prize earnings, and mechanics who receive \$25 a week and 10 per cent of earnings. In addition to this, some race car owners pay the expenses of the men when Just how you away from home. will wish to work this out with your driver depends upon the number of events you enter, your likelihood of winning and many other factors which only you and he can go into.

Before a driver enters a race, he signs a paper relieving the management of the track of any responsibility in the event that he meets with an accident. With regard to your own protection we would suggest that you take out insurance on him. Almost any of your local insurance companies can advise you on this. Of course, the premium will be very high and the insurance, as a rule, is taken out only for the duration of the event in which he is to enter. It would also be well for you to consult an attorney and have him suggest a form for the driver to sign, relieving you of all responsibility in connection with his dangerous work.

Watch for the posters or notices of dirt track races and then attend.



Answers to Electrical Questions

C VO

Changing a Racer to a Roadster

I have a rebuilt Ford racer which has no starter, generator or magneto as yet. I want to rebuild this into a fast roadster to be used occasionally on one-half mile dirt track in amateur events. This has a Laurel 8-valve head. What I want at this time is a diagram of the wiring so that I can use a starter and generator of Ford make and use an Overland Model 91 ignition switch and ammeter, also the Overland drum headlights.

Due to the shape of the body and proportion of the body, I cannot use the regular Ford wiring and would like to know the size of wire to use in connecting up the different parts. Also, what kind of coil can I use in place of the regular Ford coils? If I cannot use a single coil in their place, kindly show a diagram of hook-up with the regular Ford coils

less magneto and with magneto. Also let me know how to keep the generator from charging over eight amperes at extremely high speed.—
F. Henry Dyer, 95 Pierce Street, New Bedford, Mass.

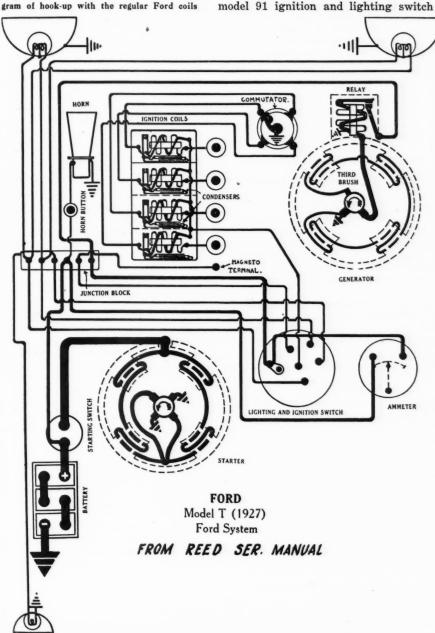
WE greatly doubt if you can produce a car that will be successful both as a roadster and also as a racer. However, if you are satisfied with a compromise, that is all right. What we mean is that if your car is a success as a race car it would be too noisy and fast to handle on the open road and would not throttle down properly. Whereas, if it is a successful passenger car, it will probably be too slow to be satisfactory on the dirt track.

We are showing a wiring diagram of the 1927 model Ford car. The Overland model 91 ignition and lighting switch will not be satisfactory for use on your car for the reason that the ignition switch does not have two connections, one for magneto current and the other for battery current. As the Ford ignition and lighting switch costs only 75 cents and the ammeter but 60 cents, we believe that it will be well worth your while to follow the regular diagram that we are showing.

If you wish to use the Overland drum headlights, you could get the dimming resistance coil and put it on the back of the Ford switch in order to make it possible to use the single contact bulbs and sockets of the regular Overland drum headlights. When you do this the dimmer coil should be connected between the dim and bright connections on the back of the Ford switch and the wire that is ordinarily connected from the dim terminal to the terminal board on the dash and from there to the headlight, should be omitted entirely. The action of the switch would then be this: When the switch was turned to "bright" the current would go directly to the filaments of the headlights and when turned to "dim" it would travel through the resistance wire on the back of the ignition and lighting switch and then through the regular wiring to the headlights. In wiring up this car you should use at least a No. 14 wire insulated with rubber and fabric for all circuits from the generator to the battery, while a No. 16 rubber insulated flexible wire will be suitable for the rest of the connections. In order to use a single coil on your Ford car, it will be necessary to do away entirely with the timer and roller and the four Ford coils and install a regular battery ignition system.

There will be no advantage in installing the Ford magneto in the engine if you use regular battery ignition with the single coil, provided you have some auxiliary oiling system to circulate your oil. The magnets of the regular Ford magneto in addition to generating current for the ignition, serve as an oil pump and if these magnets are left out it will be necessary to install some substitute such as two of the regular magneto support spools on the magnet holding bolts. It is the characteristic of all third brush regulated generators, such as the Ford, to reduce their output at extremely high speed and therefore, if you merely set your third brush against the direction of armature rotation so that the output is around eight or ten amperes at ordinary driving speed, there will be a marked reduction at racing speed.

However, the generator does impose some drag on the engine and it would, therefore, be worth your while to ground the generator when racing. You can do this by connecting a wire from the generator to the frame.





A Gentleman, a Scholar, and a Good Judge of What's What

CLEVELAND—I am certainly very much impressed with the new appearance and make-up of Motor Age. It has what we call "IT." I like the way you present the news. If you can continue to supply the dealers with such interesting and useful articles on how to make money, you will have accomplished a great service ont only to the dealer organization but to the industry as a whole. Again I congratulate you.—Paul Zens.

Here's Where We Mar an Otherwise Perfect Score

TEXARKANA, TEX.—I have heard that Henry Ford is planning to bring out a new car soon. Please send me complete details by return mail. If you cannot do this, it will be the first time MOTOR AGE has ever failed me.—

J. A. C.

Flattery? We Love It

DETROIT — Sincerest congratulations on the very splendid job you have done in putting new glands into MOTOR AGE. Every issue is as snappy as a Jamaica ginger highball. You are to be highly commended for the rejuvenation of Aunt Mary. May the



good work continue. More power to you and the best of luck.—David B. Erwin.

You Ain't Seen Nothin' Yet

T OWSON, MD.—The June 2 issue of MOTOR AGE was certainly a splendid one. I read several of the articles and particularly admired and enjoyed the style.—G. W. Brogan.

A Dandy New Model

CHICAGO—MOTOR AGE'S new model is a dandy. It looks fine. Congratulations.—F. J. R.

Fashion Note

DETROIT—The new dress looks good to me.—J. R. Scolaro.

ETTERS to the editor from those whose "attention has been called"; from those who point with pride and those who view with alarm, from those who are easy to please and those who are hard to please; from those who are happy when they find a good thing and those who are happier when they find something they consider not so good; from those who boost and those who knock; from those who see the doughnut and those who see the hole; in other words, Dear Subscriber, from you and you and you-as well as from the man who borrows your copy of MOTOR AGE or reads it over your shoulder.

Say, You Don't Mean a

Eugene Field Peach, Leo! INDIANAPOLIS—The first issue of MOTOR AGE from Philadelphia was a peach, and I am certainly going to watch the development with a great deal of interest.—L. N. Burnett.

A Sales Promoter is Speaking
DETROIT—Your articles on Sales
Promotion are excellent, and I
wish there were some way of compelling
every dealer and also every salesman
to read them carefully.—R. L. Newton.

It's Really Embarrassing
CLEVELAND—I sure want to compliment you on the copies of Motor
AGE coming out of Philadelphia. Congratulations and best wishes.—A. J. M.

He Knows His Bermudas

NEW YORK—I congratulate you on
the recent issues of Motor Age,
both from an editorial and typographical standpoint.—W. I. R.

Another Fruity One CHICAGO—The new MOTOR AGE is a peach.—F. O. K.

A Week-end Requisite

M ILWAUKEE—Once my Motor
AGE was delayed and did not
reach me by Saturday. My Sunday
was utterly spoiled.—W. Brunnich.

What Do You Now Make

of This Here, Watson?
WINDERMERE, ENGLAND—I received your letter of the 14th inst., regarding my reply to your Mr. John Cleary, and in reply to your first paragraph would say I do not need to have any kick. The only kick necessary is the one that you should use on John Cleary, as I am in possession of our current number of Motor Age. With regard to the service you have rendered us, I should like to offer up my appreciation, and can assure you I would be very lost without having the usual copy of Motor Age to open up as it comes along. Our cheque went forward 14 days ago. I wish you every success .-W. C. Woolley, Woolleys, Ltd., Motor Engineers.

Too Many Tables for Him

TOLEDO, OHIO—What's the idea
of adding another page to those
tables of prices, weights and specifications at the back of the book, and
stealing a page of your feature article
space to do it? Four pages of that

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stuff was bad enough, but now you have to go and give five pages to it.—
W. C. M.

But, on the w. k. Other Hand

BALTIMORE, MD.—Congratulations on your adding the equipment information to your prices and weights tables. We refer to data of this kind constantly, and we like the condensed form in which you present it. This addition has increased materially the already great value of each issue of MOTOR AGE.—J. F. P.

And Listen to This, W. C. M.

MIAMI, FLA.—We have always appreciated the fact that we could turn to the current issue of Motor Age and get the latest accurate information on the prices, weights and specifications of passenger car models. Now that you have added the most important items of equipment to these tables, our appreciation is still greater.—W. I. F.

Prices, Weight and Equipment of Current Passenger Car Models

Important Char	nges in
Specifications ar	nd Price
Tables since las	st issue.

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Passengers and Model	F.O.B. Price	Doors	Standard Equipment	Passengers and Model	F.O.B. Price	Doors	Shipping Weight	Standard Equipment	Passengers and Model	F.O.B. Price	Shipping Weight	Standar Equipme
p. Ctry. Club	1765	2 39	05 aghmnor	CHRYSLER "50"					DODGE BROS.			
-5p. Conv't Cpe p. Bro. Sedan	1925 1925	2 39	15 50 aghjmnoru	5p. Touring 2p. Roadster	\$750 750		2145 2025		2p. Roadster 5p. Touring	\$795 795	2 2439 4 258	Ar
. Sedan	1995	4 41	15 aghmnort	2-4p. Roadster	795	2	2130	a	2p. Spec. Rdstr	845	2 2530	Aehr
				2p. Coupe 5p. Coach	750 780	2	$2230 \\ 2335$	a	5p. Spec. Tour 2-4p. Roadster	845 975	2 264	Aehr
				5p. Sedan	830	4	2410	3	2-4p. Conv't Cpe	995	2 272	Behr
				5p. Land. Sedan	885	4	2350	an	2p. Coupe 2p. Spec. Coupe	845 895	2 2613	Aehr
				5p. Touring	1095		2570		5p. Sedan	895	4 282	3 Ar
ADILLAC				2-4p. Roadster 3-5p. Coupe	1175 1245	2	2685	aeghnrw aghnr	5p. Spec. Sedan 5p. DeL. Sedan	945 1075		Aehr Dehor
"Standard"				5p. Coach	1145	2	2795	aghnr	"Senior 6"			
132" W.B. b. Brougham	\$2995	2 41	70 aghjlnprtx	5p. Sedan Land. Sedan	1245 1295	4	2000	aghnr	4p Cab. Rdstr 5p. Sedan	1595 1595	4 341	aehnex
o. Coupe	3100 3195	2 41	05 aghlnprx 90 aghlnprtx	"70" 2-4p. Roadster	1495	2	2845	aeghmnrwx	4p. Coupe	1570	2 331	5
. Sedan	3250	4 42	70 aghjlnprtx	5p. Phaeton	1395	4	2930	aghmnrx				
Sp. Coupe	3500	2 44	60 Deghjklmnp	5p. Sp. Phaeton	1495 1595	4	2905	aeghmnrwx aghmnrux	du PONT "E"			
Sp. Sedan	3650	4 45	90 Deghjklmnp	4p. Coupe 2-4p. Roy. C'pe	1545	2	3000	aghmnrx	4p. Roadster	\$2800		afghkmn
138" W.B.			rtx	5p. Brougham 5p. Roy. Sedan	1525 1595	2	3090 3150	aghimnrtx aghmnortx	5p. Touring 4p. Coupe	2800 3200) afghkmn) afghkmnt
. Sedan	3400		20 aghlnprtx	2-4p. Cabriolet	1745	2	2935	aghmnrx	5p. Sedan	3400	410	afghkmn
"Custom"	3535	4 44	80 aghlnprtx	5p. Crown Sedan	1795	4	3160	aghmnortx	5p. Con. Sedan	3/30	4 410	Bfhgkmn
"Custom" 132" W.B.	3350		120 cashlanana	1851/2" *	2595	9	2005	Beghlmnprw				
. Roadster Conv. Coupe 138" W.B.	3450		20 aeghlmnprx 00 aeghlmnprx	2-4p. Roadster	2090			X				
138" W.B. . Touring	3450	1	85 aeghlmnprwx	5p. Phaeton	2495	4	3765	aeghlmnprw	ELCAR "6-70" 5-7p. Touring	\$1275		
. Phaeton	3450	4 42	75 aeghilmnprx	5p. Sedan	2675			aghlmnprtx	4p. Land. Rdstr	1475	2 258	ahimnr
Sp. Phaeton	3975	4 47	05 Beghiklmnp	5p. Coupe	3095	2	4110	aeghlmnopr tx	4p. Brougham 5p. Sedan	1295 1395	2 267	0 ahimnor 0 ahimnor
. Coupe	3855		65 aeghlmnprtx	5p. Sedan	3095	4	4055	aeghlmnoprtx	"8-82"			langianio.
. Sedan . Suburban	3995 4125		65 aeghilmnprtx 680 aeghlmnprtx	192½" * 4p. Coupe	2895	2	4090	aeghlmnoprtx	5-7p. Touring 2-4p. Roadster	1645 1870		0 aeghmnr
. Im. Suburb	4350		315 aeghlmnprtx	2p. Cabriolet	3495	2	4025	aeghlmnoprtx	5p. Brougham	1595	2 341	0 agehmno
				198½" * 5p. Sportif	3995	4		Beghilmnopr	5p. Sedan	1790	4 349	0 aeghijmr
		11						twx	7p. Touring	2465		5 aeghkmr
				7p. Sedan	3295 3595			aeghlmnoprtx aeghlmnoprtx	4p. Land. Rdstr 5p. Brougham	2295 2195	2 302	0 aeghmnr 0 aeghimn
				5p. Town Car	5495		4432	aeghlmnoprtx	5p. Sedan 5p. Sedan	2265 2465		5 aeghilmr
		П							7p. Sedan	2765		5 aeghkmr
HANDLER "Big Six"												
-4p. Roadster	\$1695	2 32	200 Ahnw	CIBBUNICHAM					EDGRINE 4427			
o. Touring o. Met. Sedan	1595	4 3	360 ahn 570 ahjnou	CUNNINGHAM "V-7"					ERSKINE "6" 5p. Tourer	\$915	4 230	0 aehmnr
p. Coupe	1675 1675	2 34	485 ahno	7p. Touring	\$6650	4	4600	Ceghjklmnp	2p. Bus. Coupe	965	2 226	5 aehmnr
p. Ctry. Club p. DeL. Sedan	1695	4 3	135 ao 570 ahnot	4p. Sp. Touring	6150	4	4500	rsx Ceghjklmnp	2-4p. Spt. Coupe.	965	2 233	0 aehmnr
p. Sedan "Spec. Six"	1895	4 3	725 ahnotu	4p. Coupe	7600	2	4700	rsx Ceghjklmnp	5p. Cus. Sedan	965	4 240	0 achnor
p. Touring	1145	4 2	890 ah			1		rtx				
p. Sp. Touring p. Coupe	1295 1195	2 3	940 Diw 950 ah	6p. Limousine	8100	4	5000	Ceghjklmnp rtx	ESSEX			
p. DeL. Coupe.	1285	2 3	050 ah						"Super Six"	970	0011	0
p. Sedan p. Sedan DeL. — "Std. 6"	1295	4 3	270 ah 270 aht						2p. Speedabout 4p. Speedster	\$700 78	4 223	0 amnr
"Std. 6"	0.41								2p. Coupe	73	2 234	amnr ahmnr
p. Touring p. DeL. Touring	943	4 2	475 ah 565 aiw						5p. Coach 5p. Sedan	83	4 253	ahmnr ahmnru
-4p. Rdstr p. Sedan	1133	2 2	470 ah 740 ah	DAVIS "92-27"								
p. Coupe	. 103	5 2 2	630 ah	5p. Leg. Tour	\$139	5 4	291	Dhmnr				
p. DeL. Sedan p. DeL. Coupe.	1098	2 2	740 ah 630 ah	5p. Sedan	159		3000	Dhmnr Dghmnort	FALCON-			
		1		"94-27"	104				KNIGHT	2101		o abr
"Roy. St. 8" p. Touring	219	4 3	645 ahjmnpwx	5p. Roadster 5p. Touring	. 128	5 4	2350	oldhr	Roadster			50 ghr
p. Roadster	. 219	23	435 Ahmnptwx	5n Sedan	128	5 4	257	dhr dhr Dghmnort	Coape Laudau	. 99		35 ghr 35 ghrtu
p. Coupe p. Ctry. Club	. 219	2 3	610 ahop	3p. Coupe 5p. Imp. Sedan "98-27"	138	5 4	257	Dghmnort	5p. Brougham	. \$99	5 26	65 ghr
p. Sedan p. Sedan	. 219	4 3	435 Ahmnptwx 610 ahmnoptx 610 ahop 760 ahmnoptx 870 ahmnoptx	"98-27" 5p. Polo Rdstr	. 179	1		aghmnr	5p. Sedan	. 109	27	00 ghor
p. committees	220	1	от отнинория	5p. Touring	. 179	5 4	1 305	aghimns				
				4p. Coupe 5). Emp. Sedan.	186	5	315	0 aghmnr 0 aghmnort	FLINT "60"			
							1		5p. Touring 4p. Spt. Rdstr	\$125 135	0 4 27	50 aehmnr 85 Aehmni
									4p. Cpe. Rdstr	. 139	5 28	90 aehmno
									5p. Sedan 5p. Brougham	. 139		30 aehmno 10 aehjmn
WIEUP OF TH				DIAME 45					"80"	100	200	- Cujum
"AA"				DIANA "St. 8" 5p. Phaeton	\$150	5	1310	0 agmn	120" W.B. 5p. Touring	. 145	0 4 32	45 aehmnr
p. Roadster	. \$ 52	5 2 1	890 dr	5p. Roy. Roadste	r 169	5	2 299	5 agmnw 5 Bgmnw	4p. Spt. Tour	. 159	5 4 33	95 aehimn
p. Touring p. Util Cpe	52		965 dr 2090 dhr	5p. P.B. Rdstr 5p. Cab. Rdstr	. 179	5	$\frac{2 299}{2 316}$	5 Bgmnw 0 aghmn	4p. Coupe 5p. Sedan	179		00 aehmno 25 aehmno
p. Coach	. 59	5 2 2	190 dhr	5p. Cab Rdstr	. 229	5 3	2 316	0 aghmn	5p. Sedan 130" W.B.	180		
5p. Sedan 2-4p. Cabriolet	. 71	5 2 2	275 dhr 135 dhr	5p. 4d. Sedan 5p. 2d. Sedan	. 199	5	327	5 aghmnot 0 aghimno	7p. Touring 7p. Sedan			70 afhmnr 80 aehmno
ip. Land. Sedan. imp. Land	. 74	5 4 2	270 dhru 260 dhu	135" W.B. 7p. Touring				6 agmn	"Z-18" 5p. DeL. Coach.			80 aehknor
	. 1 .0	7 7 6	a oo uuu	b. routing	109	١,	1000	olegini	op. Dell. Coath.	. 00	1 20	- Junion

A—Wood wheels with spare.
a—Wood wheels.
B—Wire wheels with spare.
b—Wire wheels.
C—Optional wheels with spare.
c—Type of wheels optional.

D—Disk wheels with spare.
d—Disk wheels.
e—Front and rear bumpers
f—Front bumper.
g—Shock absorbers or snubbers.
h—Automatic windshield wiper.

i—Trunk and trunk rack.
j—Trunk rack, no trunk.
k—Spare tire.
l—Spare tire lock.
m—Engine heat indicator.
n—Dash gasoline gage.

<sup>Car heater.
Cigar lighter.
Rear traffic signal.
Spotlight.
Vanity and smoking set.
Smoking set.</sup>

<sup>Vanity set.
W—Windshield wings.
Z—Clock.
Overall length.
Prices on application.</sup>

Prices, Weights and Equipment of Current Passenger Car Models

Passenger and Model	F.O.B. Price	Doors	Shipping Weight	Standard Equipment	Passenger and Model	F.O.B. Price	Shipping Weight	Standard Equipment	Passengers and Model	F.O.B. Price	Shipping	Standard Equipment	Passengers and Model	F.O.B. Price	Shipping Weight	Standard Equipment
FORD "T" p. Runabout p. Touring p. Coupe p. Toure Sedan p. Todor Sedan	\$360 380 485 495	2 4 2 2	1658 1732 1820 1950 2002	a a a	"J-1" 4p. Playboy 2-4p. Sp. Coupe 5p. Cus. Sedan 4p. Cus. Vict "AA" 2-4p. Playboy 2-4p. Sp. Coupe 4p. Cus. Vict 5p. Cus. Sedan	1545 1695 1695 1695 2345 2495 2495	2 307 4 320 2 320 2 320 2 334 2 347	5 aghmnrx 0 aghmnrtx 0 aghmnrtx 0 aghimnrtx 0 aghmnrx 0 aghmnrx 0 aghmnrtx 0 aghmnrtx	5p. DeL. Bro'm "8-80" 4p. Spt. Touring. 4p. Collap. Coupe 5p. Sedan 5. Brougham 7p. Sedan	2850 . 3000 . 2850 . 2900 . 3350 .	4	afghkmnrx aeghklmnprt uvx aeghklmnprt uvx aeghklmnprt uvx aeghklmnpr tuvx aeghklmnpr	"E-75" 2p. Speedster. 4p. Speedster. 5p. Phaeton. 7p. Tour. Speed. 2p. Coupe Rdstr. 5p. Town Coupe. 4p. Victoria. 5p. Brougham. 5p. Sedan. 7r. Sadan	3485 3485 3485 3565 3565 3195 3485 3565 3565 3640	2 4256 4 4017 4 4480 2 4374 2 4452 2 4373 2 4346 4 4525 4 4498	aeghlaprx aeghlaprx aeghlaprx aeghlaprx aeghlaprx aeghlaprtx aeghlaprtx aeghlaprtx aeghlaprtx
FRANKLIN "11-B" 3p, Spt. Rdster 3p, Touring 3p, Coupe 3-5p, Coupe 4p, Victoria 5p, Sedan 5-7p, Sedan 5-7p, Sedan 7p, Limousine	2635 2490 2565 2740 2790	4 2 2 4 4 4 4	2975 3105 3150 3165 3230 3230 3240 3305	aeghkirx aeghkiprx aeghkiprx aeghkiprx aeghkiprx aeghkiprx aeghkiprx aeghkiprx aeghkiprx aeghkiprx aeghkiprx	KISSEL "6-55" 124" W.B. 5p. Phaeton. 4p. Speedster. 4p. Coupe Rd. 5p. Brougham. 5p. Spee. Bro'm. 5p. Bro'm Sedan. 5p. Conv. Bro'm. 131" W.B. 7p. Touring. 4p. Tourster. 5p. Br'm Sedan.	\$1685 1895 1895 1695 1795 1895 2295 1785 1895 2095	5 2 316 5 2 348 5 2 336 6 2 348 6 4 344 6 . 337 6 4 366 6 4 322	0 ah 8 0 ah 5 ahmnr	7p. Sub. Sedan "48" 4p. Sportif	8	4 5330 4 5640 4 5464 4 5600 4 5868 4 5624 4 4478	uvx laeghkimprt uvx afghkirsx afghkirsx afghkirstx afghkirstx afghkirstx afghkirstx afghkirstx afghkirstx afghkirstx afghkirstx aghkirstx aghkirstx	7p. Sedan. 5p. Cus. Sedan. 7p. Cus. Sedan. 7p. Cus. Sedan. 7p. Cus. Limou. MOON "6-60" 3p. Roadster. 5p. Phaeton. 3-5p. DeL. Rdstr 3-5p. Roy. Rdstr 3-5p. Cab. Rdstr. 5p. Cab. Rdstr.	\$995 1095 1195 1195 1045	4 4515) an) dn) anw i an i dn
GARDNER "%0" 4p. Roadster 4p. Radstr. DeL 5p. Bro'm Coupe. 5p. Sedan DeL 5p. Bro. Cpe. Del 4p. Vic. Cpe. Del "90" 2-4p. Roadster. 4p. Land. Rdstr 5p. Brougham.	1695 1695 1695 1795 1795 1795 1995 2295 2295	2 2 4 4 2 2 2 2 4 4	2 3375 2 3375 4 3370 4 3370 2 3375 2 3375 2 3400 2 3475 4 3690	aeghmnr amn amn aeghmnr aeghimnr aeghimnr deghmnr deghmnr deghmnr	7p. Sedan. "8-65" 125" W.B. 5p. Phaeton. 4p. Speedster. 4p. Cp. Rdstr 5p. Brougham. 5p. Broe. Bro'm. 5p. Bro'm Sedan. 5p. Conv. Bro'm. 132" W.B. 7p. Touring. 4p. Touring. 4p. Tourster. 5p. Bro'm Sedan. 7p. Sedan. "8-75"	1888 2099 1899 1999 2099 2499 1988 2099 2499 2499	5 377 5 377 5 327 5 328 5 335 5 335 6 355 6 355	0 ahmnr 5 ahmnr 3 ahmnr 3 ahmnr 6 ahmnr 6 ahmnr 8 ahmnr 8 ahmnr 5 ahmnr 5 ahmnr 6 ahmnr 6 ahmnr	7p. Touring 5p. Vic. Sedan 7p. Suburban Vic. Sed 7p. Town Bro'm. 7p. Cabriolet Collap. Cab.	7500 7450	4 493 4 461 4 461	aeghklmnpr tuvx afghimprtx afghmprtx	5p. 2d. Sedan 5p. Roy. Sedan 5p. 4d. Sedan 5p. Roy. Sedan 5p. Roy. Sedan 4,2 5p. Touring 5p. Roy. Rdster 5p. Cab. Rdstr 6llap. Cab 5p. Sedan DeL 5p. Sedan DeL 5p. Sedan Sedan	1145 1195 1245 1295 1195 1595 1595 1795 1395 1545	2 252(2 2 252) 4 260(4 260) 4 256(2 2 272) 2 272(2 2 272) 4 286(4 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	Odn Oahin Odn Odn Odn Odn
HUDSON "Super Six" "Std. Line" 5p. Coach. 5p. Sedan. "Custom" 7p. Phaeton. 4p. Brougham 7p. Sedan.	\$1285 1385 1600	4	2 3505 4 3620 4 3565 4 3660	deghimnrt deghimnr aghimnr aghimnr aghimnru aghimnru	131" W.B. 5p. Phaeton 4p. Speedster 4p. Cpe. Rdstr 5p. Brougham 5p. Bro'm Sedan 5p. Conv. Bro'm. 139" W.B. 7p. Touring 4p. Tourster 5p. Bro'm Sedan 5p. Sedan DeL 7p. Sedan DeL 7p. Ber. Sedan	. 228	5 2 33 5 2 35 5 2 35 5 2 36 5 4 37 5 4 38 5 4 33 5 4 39 5 4 39 5 4 39 5 4 39	ahmnr 90 ahmnr 80 ahmnr 81 ahmnr 85 ahmnr 85 ahmnr 86 ahmnr 87 ahmnr 87 ahmnr 88 ahmnr 88 ahmnr 89 ahmnr 89 ahmnr 80 ahmnr 80 ahmnr 80 ahmnr 80 aeghimorvx 80 aeghimorvx	MCFARLAN "Str. 8" 131" W.B. 4p. Roadster 5p. Touring. 4p. Sp. Phaeton 4p. Coupe 5p. Sedan 5p. Coach Bro'm 5p. Town Car 136" W'B. 7p. Sedan "TV" 2p. Roadster 4p. Spt. Tour 4. Tour. Sedan.	. 3180 . 3180 . 3180 . 3180 . 3180 . 4600 . 3680 . 3780 . 5800 . 5600 . 6720	4 340 4 340 2 365 4 365 4 375 4 370 4 370 2 400 4 461 4 520	00 Ceghmnprwx 00 alghimprx 00 alghimprx 00 alghimnprx 00 alghimnprtx 00 alghimnprtx 00 alghimnprtx 00 alghimnprtx 00 alghimnprtx 00 alghimnprtx 00 Ceghilmnorx 00 Ceghilmnorx 00 Ceghilmnop	NASH "Std. 6" 5p. Touring. 2p. Coupe. 5p. Sedan. 5p. Sedan. 5p. Land. Sedan. 5p. Touring. 4p. Roadster 5p. Touring. 4p. Cabriolet. 2p. Bus. Coupe. 5p. Sedan. "Advanced" 12!" W.B. 4p. Roadster 5p. Touring. 5p. Sedan. 5p. Sedan. 5p. Sedan. 5p. Sedan. 5p. Sedan.	875 895 995 1085 1225 1135 1290 1165 1215 1335	2 234 4 250 4 261 2 298 4 298 4 307 2 303 2 313 4 325 2 338 4 346 2 358	Dghnr Dghnr Dghnr Dghnr Dghnr Dhnr Dhnr Dhnr Dhnr Dhnr Dhnr Dhnr D
HUPMOBILE "A-1" 5p. Touring. 2-4p. Roadster 2-4p. Coupe. 5p. Sedan. "E-3"	1388	5 5	2 266 2 280 4 280	0 eghnr 0 aghnr 0 eghnr 0 eghnr 0 eghnr	LA SALLE 2-4p. Roadster 4p. Phaeton 2-4p. Coupe 2-4p. Conv. Cpe 4p. Victoria 5p. Sedan	. 249 258 263	95 4 37 85 2 38 85 2	02 aeghlmnprx 16 aeghlmnprx 34 aeghlmnprx . aeghlmnprx 95 aeghlmnprvx 63 aeghlmnprtx	7p. Touring 6p. Sedan 7p. Sub. Sedan. 7p. Town Car		4	00 Afghjlmnop rtx Afghjlmnop rtx Ceghjlmnop rtx 00 Cfghjlmnop rtx	5p. Sedan. 127" W.B. 7p. Touring. 5p. Sp. Touring. 5p. Victoria. 4p. Coupe. 5p. Amb. Sedan. 7p. Sedan.	1440 1540 1595 1775 1925	4 348 4 356 2 36 2 359 4 386	50 Dghmnrvi 50 Dghmnr 50 3ghimnr 60 Dghmrvw 50 Dghmnr 50 Dghinrvw 50 Dghinrvw 50 Dgharvww
"E-3" 5p. Touring. 7p. Touring. 2-4p. Roadster 5p. Brougham. 2-4p. Coupe. 5p. Sedan. 5p. Victoria. 7p. Sedan. 7p. Sedan Lim	194 204 204 224 234 234 234	5 5 5 5 5 5 5 5	4 336 2 335 2 351 2 346 4 354 2 352 4 336	0 eghnrx 0 beghnrvx 5 ceghnrvx 5 dghrx 5 aghrx 5 aghrx 0 ehr	LINCOLN "8" 2p. Spt. Rdster. 7p. Spt. Touring 4p. Phaeton. 4p. Coupe 4p. Sedan. 5p. Sedan. 7p. Sedan. 7p. Limousine.	46 46 48 48 50	00	30 aegkinprx 120 aegkinprx 160 begjkinprwx 110 aegkinprx aegkinprx 30 aegkinprtx 50 aegkinprtx aegkinprtx	MARMON "Little" 2p. Speedster 4p. Speedster	1968	4 29	19 oeghlmnpcx 77 aeghlmnpcx	OAKLAND "6" 5p. Touring 5p. Sp. Phaeton 4p. Sp. Ridster. 5p. 2d. Sedan 3p. Land. Coups 5p. 4d. Sedan 5p. Land. Sedan	. 109 . 117 . 109 . 112	5 4 26 5 2 25 5 2 27 5 2 27 5 4 28	00 ah 100 eehw 90 aehnw 45 ahu 05 ah 55 ahu aehnou
JORDAN "R" 4p. Blue Boy 4p. Spt. Salon 2-4p. Tomboy 5p. Sedan	159	5	2	5 aghjmnrx aghmnrx aghmnrts	LOCOMOBILE "8-70" 5p. Brougham. 5p. Sedan Collap. C'pe DeL. Sedan.	19	75 4 3 95	330 afghkmnex 335 afghkmnex afghkmnex afghkmnex	4p. Sedan 2p. Coupe 4p. Brougham. 4p. Sedan 2p. Coupe Rdst 4p. Victoria 5p. Cus. Sedan. 5p. Cus. Sedan. 4p. Town Cab.	1898 1898 1898 1998 259 259 259	5 2 30 5 4 30 5 2 30 5 2 31 5 4 31 5 4 31	39 aeghlmnpr 53 aeghlmnprx 90 62 aeghlmnprtx 16 aeghlmnprtx 19 aeghlmnprtx 72 aeghlmnprtx 40 40	5p. Sedan 4d	89 87 97 96	5 2 5 2 5 4 5 2 26	ceghimnr cehmnr e e ceghmnru ceghimru

KEY TO SYMBOLS

A—Wood wheels with spare.

a—Wood wheels.

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b—Wire wheels.

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Rear traffic signal.
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<sup>v—Vanity set.
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Prices, Weights and Equipment of Current Passenger Car Models

Passengers and Model	F.O.B.	Shipping Weight	Standard Equipment	Passengers and Model	F.O.B. Price	Skipping Weight	Standard Equipment	Passenger and Model	F.O.B.	Shipping Weight	Standard Equipment	Passengers and Model	F.O.B.	Shipping Weight	Standard Equipment
OVERLAND "4" Whippet 5p. Touring. 2-4p. Roadster. 2-p. Coupe. 5p. Coach. 5p. Sedan. 5p. Landau. "6" Whippet 2-4p. Roadster. 5p. Touring. 2p. Coupe. 5p. Coach. 5p. Sedan.	\$625 695 625 625 725 755 755 795 795 795 875 925	4 1985 2 1930 2 2025 2 2075 4 2185 4 2230 2 2225 4 2270 2 2305 2 2405 4 2440 4 2490	agh ag ag agh agh agh agh agh agh	7p. Limousine. 5p. DeL. Sedan. 7p. DeL. Sedan. 7p. DeL. Sedan. 2-4p. Roadster. 2-4p. Coupe. 5p. 2d. Sedan. 5p. Std. Sedan. Spt. Sedan. 5p. DeL. Sedan. 76-90" 5p. Phaeton 2-4p. Roadster. 4p. Coupe. 4p. Sedan. 5p. Sedan. 5p. Landau.	2795	4 3600 4 3700 4 2850 2 3025 2 2975 2 3000 4 3125 4 2930 2 2960 2 3050 4 3200 4 3200	aghlmnrtvx aeghlmnrtvx aeghlmnrw ceghlmnrw aeghlmnrw aeghlmnrw aeghlmnrw aeghlmnrw aeghlmnrw aeghlmnrw aeghlmnrw aeghlmnrw aeghlmnr aeghlmnr aeghlmnr aeghlmnr	ROAMER "8-78" 2p. Roadster 4p. Coupe. 5p. Sedan. "8-80" 2p. Coupe. 5p. Brougham 5p. Sedan. "9-88" 5p. Tourer 5p. Sedan. 7p. Sedan.	\$1495 1495 1795 \$1985 1985 1985 2495 2985 3285	2 3410 2 3440 4 3570 4 3650 4 3880 4 3980	ag ag cg	7p. Cus. Tourer 5p. Coach Bus. Coupe. 3p. Cntry. Club 4p. Cus. Viet. 5p. Cus. Sedan. 2-4p. Sp. Coupe "Spec. 6" 5p. Coach 5p. Brougham "Big 6" 120" W.B. 5p. Du-Phaeton. 2-4p. Roadster 3p. Du-Roadster 3p. Du-Roadster 5p. Club Coupe. 2p. Com'r Coupe. 5p. Com'r Coupe. 4p. Com'r Coupe.	1245 1295 1325 1335 1345 1480 1730 \$1445 1495 1530 1480 1545	2 3115 2 2875 2 3165 4 3235 2 3760 4 3920 4 3700 2 3400 2 3400 2 3270 2 3870 2 3395 4 3570	deghmnr dehlmnru dehlmnr deghlmnry deghlmnry dehlmnr ahilnru ahilnru Deghlmnr Deghlmnr Deghlmnr Deghlmnr deghlmnr deghlmnr deghlmnr deghlmnr
PACKARD "6" 126" W.B. 4p. Roadster	\$2350 2250 2250 2250 2785 2685	4 3590 4 3920 4 3790	5 Deghlmnpx 0 Deghlmnpx 5 Deghlmnprtx 0 Deghlmnprx 5 deghlint	5-69" W.B. 126" W.B. 5p. Coupe 5p. Sedan 1333½" W.B. 2-4p. Roadster 7p. Sedan 5p. Sedan 7p. Sedan 5p. Ber. Lim	2795 2995 2995 3095 3495 3595 3795	2 3650 3978 4 3950 4 4050	egi Deghlmnrtx Deghlmnrx jeg Deghlmnrtx Deghlmnrtx Deghlmnrtx	ROLLS ROYCE "Si. Ghost" Open Models Closed Models "New Phan" Open Models Closed Models	upoupo upoupo		Bfghjkmprtx Bfghjkmprtx Beghjkmprtx Beghlkmprtx	4p. Com'r Vict 127" W.B. 7p. Du-Phaeton. 7p. Tourer 7p. The Pres't 7p. Pres't Lim	. 1575 . 1845 . 1845 . 2245	2 3510 4 3720 4 4050	Deghklmnr Deghlmsrx Dehmnrx Deplmnrtx Dehlmnrtx
4p. Coupe 5p. Club. Sedan 7p. Sedan 7p. Sedan Lim 136" W.B. 5p. Phaeton 4p. Runabout 5p. Sedan 143" W.B. 7p. Touring 5p. Club Sedan 7p. Sedan 7p. Sedan 7p. Sedan	. 2725 . 2785 . 2885 . 3750 . 3850 . 475 . 4750 . 3950 . 4890 . 5000	4 407/ 4 413/ 4 413/ 2 411/ 02 447/ 4 443 4 425/ 4 455/ 4 466	5 Deghilmnpr 5 Deghilmnprtx 0 Deghlmnprtx 0 Deghlmnprx 0 Deghlmnprx 0 Deghlmnprx 5 deghimnpt 0 Deghlmnprx 0 Deghlmnprtx 0 Deghlmnprtx 0 Deghlmnprtx 0 Deghlmnprtx 1 Deghlmnprtx 1 Deghlmnprtx	PIERCE ARROW "80" 2p. Runabout. 7p. Phaeton. 4p. Phaeton. 5p. Brougham. 2p. Coupe. 5p. Std. Sedan. 7p. Std. Sedan. 7p. Club Sedan. 7p. Club Sedan. 7p. Enc. Dr. Lim 4p. Coupe. 5p. DeL. Sedan. 7p. DeL. Sedan. 7p. DeL. Sedan. 7p. Lim. Encl.	\$2495 2895 3095 2495 3100 2895 3350 3200 3400 3450	4 3444 4 3300 2 347; 2 3404 4 352; 4 362; 2 345; 4 356; 4 357; 4 368; 2 342; 4 350; 4 360;	5 afghlrx 0 afghlrx 0 afghlrx 0 afghlrx 0 afgklrtx 5 afghlpr 5 afghlrtx 0 afghlrtx	STAR "4" 2p. Con. Rdstr 5p. Touring. 2p. Coupe 5p. Sedan "5" 5p. Tourong 2-4p. Roadster 2-4p. Cabriolet 2p. Coupe 5p. Sedan 5p. Sedan 2-4p. Cabriolet 2p. Coupe 5p. Coach 5p. Sedan 2-4p. Sp. Coupe	650 675 765 725 885 915 795 845	4 2070 2 214 2 226 2 214 2 226 4 234 4 233	0 a 5 ah ah 0 ah	STUTZ "AA" 131" W.B. 2-4p. Sp'dster. 4p. Speedster. 2-tp Coupe. 5p. Brougham. 5p. Land. Sedan. 5p. Land. Sedan. 7p. Sedan. 7p. Sedan. 7p. Sedan Lim. 7p. Sedan Lim. 7p. Sedan Lim. 2p. Speedster. 4p. Viet. Coupe. 4p. Viet. Coupe. 5p. Brougham. 5p. Land. Sedan.	. 3195 . 3195 . 3345 . 3685 . 3685 . 3785 . 3250 . 3260 . 3265 . 3275 . 3320	4 4175 2 4182 2 4176 4 4334 4 4340 4 4566 4 4731 2 4058 4 4173 2 4183 2 4173 2 4183 4 4334 4 4334	s aeghlmnprw. 5 aeghlmnprw. 5 aeghlmnprx 6 aeghlmnprx. 6 aeghlmnprtx 6 aeghlmnprtx 7 aeghlmnprtx 8 aeghlmnprtx 8 aeghlmnprtx 8 aeghlmnprtx 8 aeghlmnprtx 6 aeghlmnprtx 6 aeghlmnprx 7 aeghlmnprx 8 aeghlmnprx 9 aeghlmnprx 9 aeghlmnprtx
PAIGE "6-45" 5p. Touring. 2p. Coupe 4p. Cab. Rdster. 5p. Brougham. 5p. Sedan. "6-65" 4p. Roadster 5p. Brougham.	1095 1295 1095 1195	2 252 2 261 2 266 4 276 2 308	aeghnr 15 aeghnr 30 aghnr 30 aghnr 55 aghmnrwz 15 aghmnrwz	2p. Runabout. 4p. Touring. 7p. Touring. 7p. Sedan. 7p. Lim. Encl. 3p. Coupe. 4p. Cpe. Sedan. 4p. Sedan. 7p. Enc. Dr. Lan 7p. Sedan Land. 4p. Lim. Encl.	5875 5875 5875 6375 6375 6375 6000	4 451 4 458 4 481 4 487 2 476 2 479 4 483 4 489 4 484	0 afghlrx 0 afghrx 5 afghlrx 5 afghlrtx 0 afghlrtx 0 afghlrtx 5 afghlrtx 5 afghlrtx 0 afghlrtx 0 afghlrtx	STEARNS-KNIGHT "F-6-85" 4p. Roadster 4p. Touring 4p. Cab. Rdstr 5p. Cus. Sedan 4p. Coupe	. 3250 . 3550 . 3350	4 432 2 4 456	2 aeghklmnrwx 2 aeghjklmnrw x aeghklmnor x aeghjklmno rtx rtx aeghjklmno	145" W.B. 5p. Tour Bro'm. 7p. Sedan Lim. "AA Custem 2p. Coupe. 4p. Vict, Coupe. 5p. Sedan. 2-4p. Cab C'pe.	3835 3835 3910 3915 3925 3995	4 4656 4 473 2 418 2 417 4 434	6 aeghilmnprts 6 aeghilmnprts 1 aeghilmnprts 2 aeghilmnprx 6 aeghilmnprts 0 aeghilmnprts 0 aeghilmnprts
5p. Land. Bro'm. 5p. Sedan. 6-75" 7p. Touring. 4p. Cab Rdster. 5p. Sedan. 4p. Coupe. 7p. Sedan. 7p. Limousine. 6-85" 7p. Touring. 5p. Sedan. 4p. Coupe.	1395 1495 1655 1995 1695 1995 2145 2295 2355	2 311 4 328 4 342 2 354 4 355 2 358 4 370 4 380 4 370	aghmnr aghmnr aghmnrx deghmnrx deghmnrx deghmnrx deghmnrx deghmnrx dghmnrtx dghmnrtx dghmnrtx dghmnrtx	4p. Sedan	. 6475 . 6600 . 6600 . 6600 . 7500	4 480 2 474 4 480 4 488 4 474	5 afghlr 5 afghlr 0 afghlrtx 0 afghlrtx 0 afghlrtx	5p. Std. Sedan 5p. Sedan Lim 5p. Cus. Sed. Lin 7p. Sedan 7p. Sedan Lim 4p. Koadster	. 3450 . 3700 n. 3700	4 457 4 465 4 463 4 470 4 480	rtx 2 aeghjklmno rtx 60 aeghjklmno rtx	VELIE "Std. 50" 2-4p. Roadster 3p. Coupe 5p. Met. Sedan 5p. Met. Sedan "Spec. 60" 5p. Club Ph'tn 4p. Coupe 5p. Spec. Sedan. 5p. Royal Sedan	1165 1165 1325 1450 1585 1585	2 273 4 281 4 302 2 326 4 333	aehkmr 0 aehkmr eghk 25 aehimnprx 30 aehmnrux 30 aehmnrux
4p. Cabriolet	2655 2655 2795	23 696 43 916 4 395	Da eghmnprx Da eghmnprux 50 aeghmnprux	PONTIAC "6" 2-4p. Roadster 2p. Coupe 5p. 2d. Sedan 4p. Sport Cab 5p. Land. Sedan 5\(\gamma\) DeL. Landau	775 775 835 895	2 223 2 233 2 234 4 246	5 ah 15 a	4p. Cabriolet. 4p. Cabriolet. 4p. Coupe 5p. Sedan. 7p. Sedan. 5p. Sedan Lim. 7p. Limousine.	. 3950 . 4550	4 463 2 471 2 488 4 493 4 500 4 500	aeghjklmn rwx rest aeghklmnorx aeghklmnor tx aeghklmno rtx aeghklmno rtx aeghklmno rtx aeghjklmno rtx aeghjklmno rtx aeghjklmno rtx aeghjklmno rtx aeghjklmno	WILLS KNIGHT "66-A" 2p. Roadster 5p. Touring. 2-4p. Cab C'pe 4p. Foursome. 5p. Sedan. 135" W.B.	\$1850 1850 1995 2095	4 368 2 370 4 397	15 aghnrx 14 aghnrx 10 aghnrx 15 aghnrtx 15 aghnrtx
2-1p. Cod Between Company Comp	1345 1345 2295 2395 1995 2195	5 4 27: 5 4 28: 5 4 34: 5 4 31: 5 2 33:	25	REO "A" 2p. Roadster Brougham 2p. Sp. Coupe 4p. Victroia Sedan DeL Sedan "Wolverine" 5p. Brougham	1685 1625 1845 1845 1995	2	aeghnr aeghnr aeghnr aeghnr aeghnr seghnrt aeghnrt	STUDEBAKER "Std. 6" 3p. Du-Roadster 5p. Cus. Tourer 3p. Sp. Roadster 5p. Du-Phaeton	31160 1160 1190	0 2 280 5 300 5 2 29	segnkimno rtx 80 deghmnr 80 deghmnr 45 deghkimnrw 05 deghimnr	7p. Touring. 7p. Sedan. 7p. Limousine. "70-A" 2-4p. Roadster. 5p. Touring. 2p. Coupe. 5p. Coach. 2-4p. Cab Coup	2850 2950 1350 1295 1295 e 1495	2 296 4 290 2 281 2 301 2 288	aghnrtx 65 aghnr 65 aghnr 15 aghnr 16 aghnr 80 aghnr 95 aghnr

A—Wood wheels with spare.
a—Wood wheels.
B—Wire wheels with spare.
b—Wire wheels.
C—Optional wheels with spare.
c—Type of wheels optional.

D—Disk wheels with spare.

d—Disk wheels.

e—Front and rear bumpers.

f—Front bumper.

g—Shock absorbers or snubbers.

h—Automatic windshield wiper.

KEY TO SYMBOLS:

i—Trunk and trunk rack.
j—Trunk rack, no trunk.
k—Spare tire.
l—Spare tire lock.
m—Engine heat indicator.
n—Dash gasoline gage.

Vanity set.
W—Windshield wings.
Z—Clock.
Overall length.
Prices on application.

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Mechanical Specifications of Current Passenger Car Models

This list comprises current cars distributed on a national basis only. Data for previous models back to 1920 will be found in the Chilton Catalog and Directory

	sueell		esiç.		-97	-	GINE GINE						1	TSTEN	Sam bas eq			Nake REAR	×	pue	ES _ me	ear-Make	bas eqtT—sg	-neitation-	ABBREVIATIONS— NAMES OF MFRS.
	ozič svil Besimise Gesimase	Make and Model	Number of C	Rated H.P. N.A.C.C. Piston Dis-	placement Valve Arrang ment	Camshaft Di Piston Mate	No. Main B. Crankshaft	Damper? Oiling Syste	Oil Cleaner	Cooling Syst	Radiator Shutters?	Carburetor Make	Air Cleaners	Make Generator a	Starter Mal	Coar Sot—	Universals-	Type and M	Gear Ratio	Foot—Type Location Hand—Typ	and Location (-Wheel T.)		Rear Spring Length	Chassis Lu Type and M	OF STOCK PARTS
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	8 28828	Own6 Own314 8 Own.Big 66 Own.Stdd 66 Own.Spe. 66	37216 37216 37216 37474 3781434 371434	322223 33325 3335 846 85	- 11111	Seperation of the separate sep		YAYAN YAYANA YAYAN YAYAN YAYAN YAYAN YAYAN YAYAN	* FFFFF			Own. Sch.						E % 1/2/2/4/	Own. 4.91 Own. 4.45 Own. 4.90 Own. 4.90 Own. 4.90	च ज ज ज ज ज ज ज ज ज ज ज ज ज ज ज ज ज ज ज			\$59% \$59% \$59%	Bowen Bowen Bowen Bowen Bowen	B-L—Brown-Lipe Bal—ball & Ball Ba—Bassic cups Car—Carter CAS—CAS Products Cle—Cleveland
103	9 2	Own Cap 4	-3 14x4		_ I		7 0		××			Str	2 0	: :	: :			% 74.	Own. 4.18	E-F.			S-58.	Pr-Ze	Con—Continental Cpl—Campbell
162 126 224 162 242 132 142 110 110 116 116	29x4, 75 28x5, 25 30x6, 00 33x6, 75 32x6, 00 30x5, 00 32x6, 00 32x6, 00 32x6, 00	0 V7 V7 V7 V7 V7 V7 V7 V7 V7 V7 V7 V7 V7	20 20 20 20 20 20 20 20 20 20 20 20 20 2	2223422222 21223422222222222222222222222		90000000000000000000000000000000000000	8778745557	N V V V V V V V V V V V V V V V V V V V	ZFFZZZZZFZ>	Pre. Pre. NVNVYVX		Bal Skr Til Til Skr Skr	ZAKAZKAK	00000000000000000000000000000000000000			Own f- Own m-U-P Own m-U-P Own m-U-P Own f-Spl W-G m-Pet W-G m-Pet War m-Pet Own m-Own	たんなと マインタイング	Own. 4.70 Own. 4.70 Own. 4.30 Col. 4.90 Col. 5.37 Col. 5.10 Own. 4.16	55575555555555555555555555555555555555	HHHHHHHHHHHHHHHHHHHHHHHHHHHHHHHHHHHHHH	Genn Genn Ross Ross Ross Genn Genn Genn	25.55.55.55.55.55.55.55.55.55.55.55.55.5	Pr-Ze. Pr-Ze. Pr-Al. Pr-Al. Pr-Ze.	Dollar Daywood Dollar Daywood Dollar Daywood Dollar
117 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	24 25 26 26 26 26 26 26 26 26 26 26 26 26 26	Wis. Y 6 Lyc. GS8 Lyc. 4HM 8 Own 8F 6 Own 6F Wilson 9L 6	23/8x5/2 27/8x43/2 23/8x41/2 23/8x41/2 23/8x41/2 24/8x31/2 23/8x31/2 2	27.3 19.8 26.4 26.4 116.5 117.3 118.1	- 55555×55		w 40040040		KXKXAKK X		o zzzxxzz	Sch Swan Swan Swan Str Ste Joh			D GROWEN			to Taka taka taka taka	Sal. 4.9 Sal. 4.9 Sal. 4.62 Tim. 5.12 Own 5.40 Own 4.87	2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2			8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	Oc- Oc- Bowen Pr-Al. Pr-Ze.	ater average Lyre—Lycoming Mar—Marvel Mur—Muncie Mur—Muncie N.E—North East Pet—Peters Rec—Rockford Sa—Saal
120–130 100 119	2x6.20 9x4.40 2x6.00	Con6E 6 OwnT 4	13%x4 13%x4 13%x4 13%x4	222.2			- 1001		>zz		ZZZ	Str			:::	:::		Terreta	Own. 4.77 Own. 3.63 Own. 4.73	E-T-E	E-T H I-R. N E-R. N	Ross. Own.	S-55 0-43% E-38	Pr-Ze. OG. Pr-Ze.	Sel—Salsbury Sch—Schebler Spe—Snead Make Spie—Special Make
/so /ta	888888888	LycGT 8-23/x44/x Lyc4HM 8-3/x44/x41/x Own 6-3/x45 Own	3.234x43x 3.32x43x 3.32x5 3.32x5 3.32x43x 3.32x43x 3.32x43x 3.32x43x 3.32x43x 3.32x43x	488282828 48828888 284488884	2228 2288 2288 21268 2127 247 268 268 277 277 277 277 277 277 277 277 277 27	22422422 8888888	ちちょよろてろち	KKKKCKK PPKKCKK	ZZZZZZZ	Pri Pri YXXXXX	ZZXZZZZ	Mar. Mar. Str.	Y Y Y Y Y Y Y Y Y Y Y Y Y Y Y Y Y Y Y	D-R. D-R D-R. D-R A-L. A-L. Delco A-L. A-L. A-L A-L. A-L	P. B&B. P. B&B. P. Own. P. B&B. D. Long. P. Long. P. Det.	B. W-G nn. Own. B. Det. B. Det. ng. War. ng. War.	G. BCle. G. BCle. E. BMcs. F. BWP. F. BAlm.	Takaka ka ka ka ka ka	Col 4.2% Col 4.2% Own. 4.45 Own. 4.9% Own. 4.9% Col. 4.6% Tim. 4.4%		FFT	Ross Gem Gem Gem Gem	25555555555555555555555555555555555555	Pr-Ba	Sie—Stewart St.—Stewnberg St.—Stromberg Thr—Thermold Til—Tilloteon U.m—Universal Machine U.P—Universal Products W.G.—Warner Gear
125–132 131–139 125 136	3888%	Own55 6 Own55 8 Own75 8 Own8	6-3-4-x51/8 8-21/8-x43/4 8-31-x41/2 8-31/8-x41/3 8-35/8-x5	26.5 332.6 31.2 36.4	266 L 246 L 287 L 303 L	P. N. A. A. C.	10 10 00 10 10	NY PPE NY PPE NY PPE	ZKK#K	Pu Pu Pu YNY	ZZZZZ	Sch Sch Own	AZKKK	D-R. D-R. D-R. D-R. D-R. D-R. Delco. Delco.	P.B&B. P.B&B. P.B&B. C. D.Own.	The Course of th	G. m-Spi. G. m-Spi. G. m-Spi. n. m-Own.	Takaka KE	Tim. 4.59 Own 4.54 Tim. 4.58	ल्लास्य स्टा	E-T H E-T H E-R M E-R M	Ross Ross Jac	8 8 8 8 8 8 8 8 8 8	Pr-Da. Pr-Al. Pr-Al.	War—Ware Wes—Westinghouse Wis—Westonghouse Wis—Wisconsin Ze—Zenth
Alum -Aler -Aler -Aler -Boti-	num nite-Zerk teel i internal aal, four wh I Gear Over ron a; Overhead d grease cu	Al-Aluminum A-Z-Alemite-Zerk B-Semistrele B-Femistrele B-Fewistrel Chernal, four wheels BO-Bevel Gear Overhead shaft Chernan Cl-Cast Iron Co-Chain Co-Chain grease cups	D—Multiple disk E—Full elliptic E-F-External four wheels E-R-External transmission F-Fabric F-Fabric F-Full docuting F-Full and side G-Head and side G-Grease cups	litiple die case cupe dans la litation la	sk four whee rear whee transmissi transmissi de		H—Horizontal (valves) H—Hydraulie (brakes) H—Hydraulie (brakes) H—Hydraulie (brakes) H—Hydraulie (brakes) H—Ir —Internal four wheele H—Internal raw wheele H—Lore-quarter elliptio L—Cone	ontal (va ulic (bral al gear costatic nal four mal rear	alves) rakes) r wheels r wheels elliptic		Metal Mechan None Platfort Nickel Options Special Oil cul Oil cul Oil cul Oil cul Oil cul	m—Metal N—Mochanical N—None N—Platform (rear springs) N—Platform (rear springs) O—Optional O—Special type (rear springs) OG—Oil cups OG—Oil cups OG—Oil cups with wick feed	springs) ar sprin e Cups		Single plate Pressure gun — Pressure gun — Pressure to all cranks connecting rod bearing meeting rod all bearings bearings bearings — Full pressure bearings — Full pressure — Pressure — Full pressure — Pump	late e gun re to all ing rod essure t re to cra re to cra rods a	P. Single plate P.—Pressure gall crankahaft and PC.—Pressure to all crankahaft and connecting rod bearings PF.—Pul pressure to all bearings necting rods and cambaft, con- necting rods and cambaft PS.—Splash with pressure	Q—Quarter ellip R—Rectifier Sem-ellipte Sep—Separalipte Sp—Separalipte Sp—Separalipte Sp—Splash (lubr Sp)	- Cuart - Rectification of the color of the	-Quarter elliptio -Bectifier -Semi-elliptio -Sema-elliptio -Separate -Slash (lubrication) -Spur gear (cambaft -drive) -Special make -Special make	ic cation) imshaft		T—T head Ti—Thermo-sphon Ti—Transverse V—XX. shape V—antilever X—Sleeve valve T—Yee	eyphon rse rpe r r	¢.

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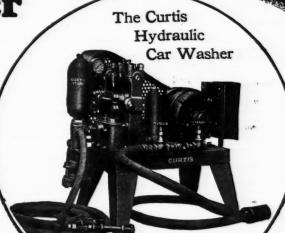
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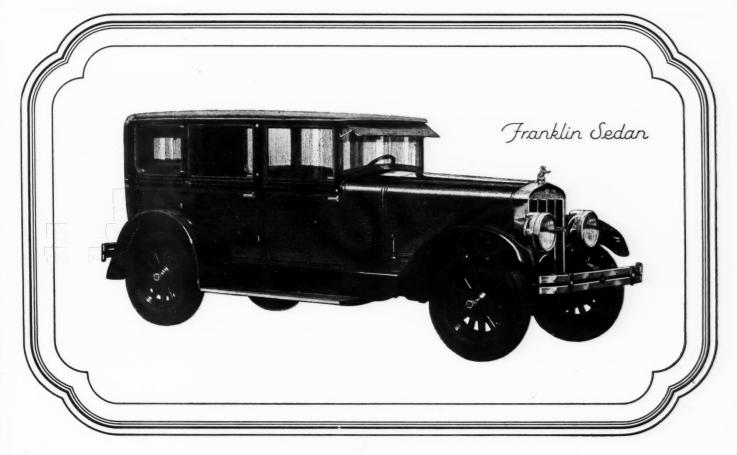
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Mechanical Specifications of Current Passenger Car Models—Continued		
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Mechanical Specifications of Current	,	Fassenger
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Mechanical		Specifications
		Mechanical

	ABBREVIATIONS— NAMES OF MFRS. OF STOCK PARTS	A.Bos—American-Bosch A-K—Atwaker Kenr A-L—Auto-Lite Ada—Adame Al—Adame	RAM—Almeral RAM—Ball & Ball Ba—Ball & Ball B—Bassic cups Car—Carter CAS—Carter CAS—Cast Products Car—Carter CAS—Cast Products Car—Carter CAS—Cast Products Car—Carter CAS—Cast Products Car—Carter CAS—Cast Products Car—Cast Products Car—Cast Products Car—Cast Products Car—Cast Products Car—Cast Products Cast Cast Cast Part Cast Cast Cast Cast Cast Cast Cast Cast	D.R.—Doloo-Remy D.R.—Doloo-Remy Dur—Duration D.R.—Durato Est.—Eston C.R.H.—Guay & Haigh Hal—Holley Jec—Jacor Jec—Jacor Jec—Jacor Jec—Marvel Mar—Marvel Mar—Marvel Muc—Mechanics Muc—Mechanics Muc—Mechanics Muc—Mechanics Muc—Mucharvel Muc—Mucharvel Muc—Mucharvel Muc—Mucharvel Muc—Mucharvel Muc—Mucharvel Mucharvel Much	Pet Peters Sa Sa Sackord Sa Sain Salisbury Sch Bahebler Sne Bahebler Sne Bebeler Sne Beebler Sne Beesler Sne Special Make	Bue Skromberg Thr—Tiletmond Til—Tillotaon U-M.—Universal Machine U-M.—Universal Products W-G.—Warner Gear W-a.—Wagner W-a.—Wagner W-a.—Wagner W-a.—Wagner W-a.—Wagner W-a.—Wagner	Wis-Wisconsin Kis-Wisconsin Ko-Zerk Sen-Zenith	
	Chassis Lubrication Type and Make	Pr-Ze. Pr-Ze. Pr-Ze.	None Bowen Bowen Bowen Bowen Bowen Bowen Br-AL. C Pr-AL.	Bijur Bijur Bijur Pr-A-Z Pr-A-Z Pr-A-Z Pr-A-Z Pr-A-Z Pr-A-Z Pr-A-Z Pr-A-I Pr-A-I Pr-AI Pr-	Pr.Ze. S Pr.Ze. S Pr. S Pr. S Pr. Al. S Bijur. S	Pr-Al T Pr-Al T Pr-Al U Pr-Al U Pr-Al W	Pr-Ze. W Pr-Do. Z Pr-Al. Pr-Al.	, X",
ban sq	Rear Springs—Typ	S-58	77.46. 77.46. 77.46. 76.76. 76.76. 76.76. 76.76. 76.76. 76.76. 76.76. 76.76. 76.76. 76.76. 76.76. 76.76. 76.76. 76.76. 76.76.	90000000000000000000000000000000000000	8 V V V V V V V V V V V V V V V V V V V	2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	8-55 F 8-55 F 8-55% F	I—T head II—Themogyphon II—Transverse "X" Shape V—Cantilever V—Cantilever I—Sleeve valve Y—Y arloe
ohe	M—129D Snines12	Ross. Ross. Ross. Ross.	Gem. Ross. Ross. Ross. Ross. Ross. Ross. Gem. Gem. Gem. Gem. Gam. Gem. Gem. Gem. Gem. Gem. Gem. Gem. Ge	Own. Geem. Geem. Geem. Ross. Ross. Ross. Geem. Jac.	Ross Bross Bross Bross Bross Bross Bross Bross Bross Own V. Own S.	Ross. S	Ross. S Ross. S Cwn. S Own. B	TT-TT-TT-TT-TT-TT-TT-TT-TT-TT-TT-TT-TT-
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AXLE	Gear Ratio	77 I-F. 81 I-F. 50 B-F. 5° I-F.	34. 1.F. 31. 1.F. 33. 1.F. 30.	4 4 4 4 5 5 7 7 7 7 8 8 9 8 9 8 9 9 8 9 9 9 9 9 9 9	25 - F.	31 B-F 00 1-F	90 E-F. 70 E-F. 11 B-F.	r ellipti iptic ste (lubric al make
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	Geer Set-Make	Det War Own	Own. Wed. Own. Own.	Own	W-G Own W-G Jones Own	D 0 00000	W-Gr	arings arings all bear shaft, shaft in
	Clutch—Type and	P.B&B. I P.B&B. I P.Own. C	P.B&B. (P.B&B. P.B&B. P.B&B. P.B&B. P.B&B. P.B&B. P.B&B. P.B&B. P.B&B. P.B&B. C.B&B. P.B&B. C.B. P.B. P.B. P.B. P.B. P.B. P.B. P.	D. Own. C D. Own. C P. Ros	P.B&B. O P.Long. O P.B&B. D P. Jones. J. K. Own. O P. Own. O	P. Own. O P. B&B. O D. Long. O P. Long. O P. Own. O	P.B&B. N P.B&B. O P.B&B. O	Pr—Pressure gun PC—Pressure to all crankahaft and R connecting rod bearings Ss PF—Full pressure to all bearings SY PF—Full pressure to catalonate, connect-St Ing rods and camahaft bearings Ss PS—Splash with pressure Ss
ELECTRICAL	Generator and Starter Make	Delco. Delo Wes	DOBR	Dyn. Dyn. D-R. D-R. Delco. Delco. Delco. Delco. Delco. Delco.	N-E. D-R. A-L. Wes. A-L.	A-L. DeJo. DeJo. De-R. Wag D-R.	A-L D-R Bosch. A-L	Pressu Pressu Sounce Full p Pressu Ing round Pump
SYSI	Ignition System	Deloo. Delo. Delo.	A-PODOP-L-R-R-R-R-R-R-R-R-R-R-R-R-R-R-R-R-R-R-	Delco Delco Delco Delco D-R. D-R. D-R. D-R. D-R. Delco Del		A-L. Delo. D	A-L.	TO TH NT
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	Make and lobeM	Cont	Own. E-75 (Own. E-75 (Own. E-75 (Own. E-75 (Own. 72 (Own. 32) (Own. 33) (Own. 33) (Own. 36) (Own	Jwn. 6 Con. 191 Con. 191 Con. 195 Con. 65 Con. 890 Con. 890 Con. 690 Con. 6	Cont15E JwnGT LycGT Lyc4HM Cyc4HM Own. 40-60 Own. 40-65 ConW-5	Con14L Own.F G-85 Own.G-8 Own	Own52 Own66-A	2
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	ODEL	8-80 48	Little E-75 St. 8 St. 8 St. 8 St. 8 St. 660 Std. Six Advanced 121 Special 30E (Whippet	6-45 6-45 6-65 6-65 6-60 6-80 12 8-69 12 8-69 12 8-69 8-69 12 8-69 8-69 8-69 8-69 8-69 8-69 8-69 8-69	Welverine 8-78 8-80 8-88 ver Ghost	F 6-85 G-885 Std. 6 Spec. 6 Big 6	Spec. 60 Spec. 60 66-A 120	onting Co.
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In Colonel Lindbergh's plane 3,600 miles at top speed is proof of air-cooled motor superiority

NOLONEL Lindbergh has dramatically proved what Franklin owners have known for years-the stamina-the endurance—the reliability that are embodied in the air-cooled type of motor.

The exclusive advantages enjoyed by Franklin owners, and the quality of the workmanship and materials in the car, have made Franklin owners the most satisfied group of motorists in America. Franklin dealers make dependable incomes, largely because the Franklin Owner's next car is so generally another Franklin. Their sales show the highest percentages of repeat buyers in automotive history.

Franklin is the logical fine car to complete your line. Your customers do not continue to buy low priced cars. They advance themselves financially into the fine car group. With Franklin as the stopping point you can hold your customers. Franklin more completely covers the \$2500-\$3000 class than any other car.

Small town dealers find the Franklin franchise unusually profitable. At little additional investment they are able to materially increase their profits and establish a loyal group of Franklin owners in their town. May we send you the complete details of the profit possibilities?

FRANKLIN AUTOMOBILE COMPANY, SYRACUSE, NEW

Air-Cooled





PAIGE

We shall strive to make the Paige dealership a profitable enterprise for a substantial business man in every community.

> Joseph B. Fraham Robert C. Fraham Ray al Luaham

BROWN-LIPE

World Leaders
World Leaders
Fransmissions & Churches



GEAR COMPANY



Pumping Money Into Your Till

All over this land today garagemen are literally pumping money into their cash registers—turning soap and water into gold. Good appearance is the outstanding demand of the motorist. He can't properly wash his own car and this great new market for car washing is making a harvest for the service man who is equipped to do it quickly, promptly and well. It costs but little to get into the car washing business. It costs less to stay in it—if your original investment is made in a Hardie Dependable Car Washer.

Western Factory,
PORTLAND, OREGON
Canadian Factory,
PETROLIA, ONTARIO





THE HARDIE MFG. COMPANY Main Office and Factory, Hudson, Mich.

Use the Dependable Hardie

You want a car washer that will stay on the job hour after hour, day after day. Whenever a car washer is down for repairs it costs the owner money. Weak and undersized parts mean delays, and up-keep expense. Small capacity means smaller profits. Get right down to the facts when you buy a car washer, because in effect it is going to pump money into your cash register when it is on the job. Let ustell you all about the Hardie and then you will know what you ought to get when you buy a car washer. We will gladly send you complete information.

For Sale by Leading Jobbers Everywhere.

Branches:

222 N. Los Angeles St., Los Angeles, Calif.

1780 Broadway, New York.

Export Department: 120 Madison Ave., Detroit

HARDIE DEPENDABLE CAR WASHER

A Change is Taking Place in the Automotive Industry

No basic development in automobile design in recent years has stirred the engineering and manufacturing division of the automobile industry, so much as the great strides that are being made in the progress of the Knight sleeve-valve engine.

The rapidly spreading popularity of Knight-engined cars is a natural trend toward better motor performance, longer life, freedom from carbon annoyance and mechanical trouble.

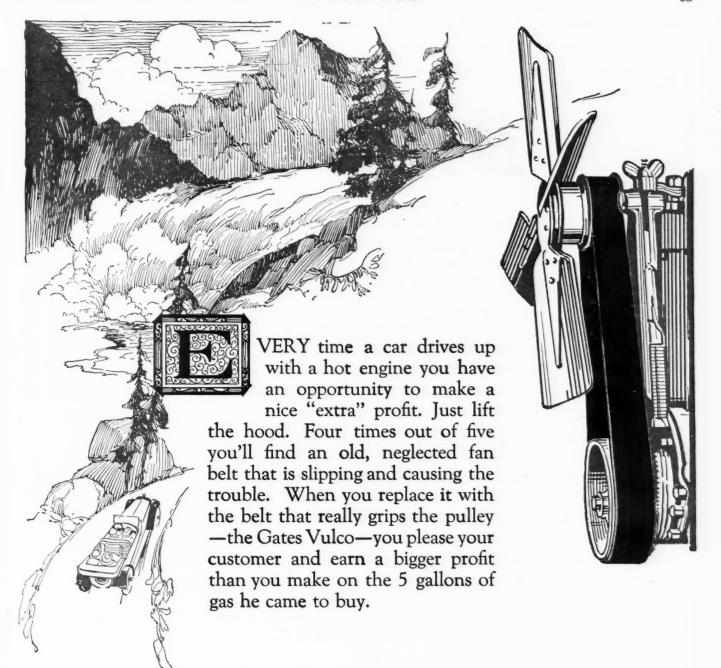
Throughout the next five years demand for cars powered by this type of engine, will continue to grow at a rapid rate.

Falcon-Knight is the only six-cylinder Knightengined car in the \$1000 price class.

FALCON MOTORS CORPORATION, · DETROIT

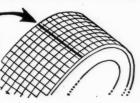
Falcon-Knight



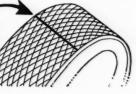


It's Gates Patents That Make Vulco Belts Hard To Break

Ordinary fan belts are plain weave. The threads in the belt run lengthwise and across. To break this belt on the marked line onlythe lengthwise threads, need be broken.



In Gates Vulco Belts threads run diagonally. Twice as many threads must be broken to break this belt—that's why it resists breaking twice as long. This bias weave construction is a Gates patent.



"The Standardized Fan Belt"

GATES VILLE BELTS

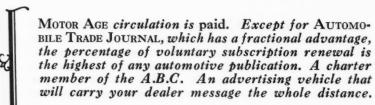
"Made By The World's Largest Manufacturers of Fan Belts"

BANG/

When two cars bump at the crossing, with smashing glass, bent fenders, etc., the crowd that immediately collects represents no particular group of people. It includes bankers, brokers, grocer boys, bootleggers, candle stick makers, et al.

But with your dealer message appearing in the trade's principal newspaper (edited for 25,000 trade units, comprising the industry's real merchandising effectives), the circulation is really effective—with waste comparable to that fractional percentage of impurity that the makers of Ivory soap claim for their product.

Have you noted the recent changes in Motor Age, which are giving it an odds-on advantage in the automotive news field? Motor Age is getting a lot of favorable reaction from its subscribers—reaction that spells increasing value to those manufacturers who use its advertising pages.



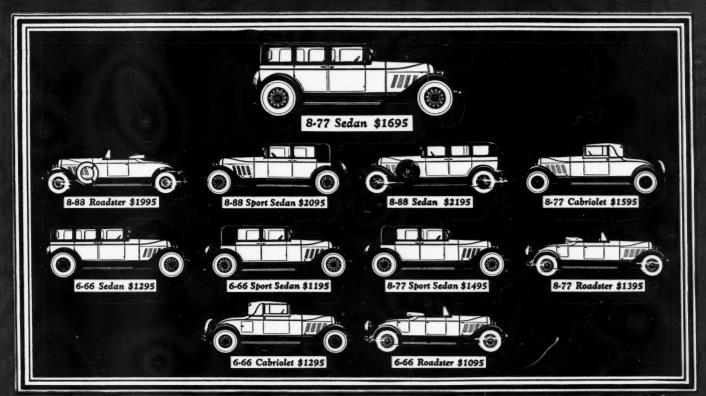
If you are interested in a market analysis to determine, in a practical manner, just how your product can best be merchandised via automotive trade channels, we will be glad to place our unusual research facilities at your service.



A Chilton Class Journal Publication

CHESTNUT and 56th STREETS, PHILADELPHIA

TOMORROW YOU'LL WISH YOU HAD THE AUBURN FRANCHIS



75 miles in practically 52 minutes with an 8-88 stock car is a marvelous record but only an incident in the constant evidence of Auburn's VALUE leadership. The complete Auburn line and the outstanding VALUE of every model gives the Auburn dealer a decisive advantage over all competition.

AUBURY AUTOMOBILE COMPANE AUBURN, INDIANA

6-66 ROADSTER 120 Inch wheelbase 11095

126-inch wheelbase \$1195 8-79 CABRIOLET 125-inch wheelbase \$1595

\$1595 8-88 CABRIOLET 130-inch wheelbase 6-66 CABRIOLET 120-inch wheelbase \$1295

8-77 SEDAN 125-inch wheelbase \$1695 8-80 SEDAN 120 Inch wheelbase \$1295 8-88 ROADSTER 130 Inch wheelbase

\$1995 3-88 7-PASS, SED A 147-inch wheelbas 6-77 ROADSTER 125-inch wheelbase \$1395

2-64 SPORT SEDAL 130-inch wheelbase \$2095

AUBURN

The Car Itself is the Answer

More profit per car. More cars per dealer. Dealers' new car stock extremely low. Rapidly increasing consumer demand. Increased production is more cars the first six months of this year than all of last year, and it was double the year previous. Tie to this SUCCESS by becoming the Auburn dealer.

Auburn has introduced, not only newer, better merchandise of proven greater value, but has also applied remedial measures that protect and benefit the dealer, such as: No forced sales and overloading of dealers. Production is regulated by buyer demand. Selling on quality appeal, comparative values and demonstrated performance and durability.

A right used car policy that enables the dealer to make money and KEEP it and not swap his profits away.

Striving for volume at the expense of profits and the dealer's permanent welfare is poor business. Think THAT over, and then write us.

AUBURN

The Car Itself is the Answer



LYON Auto Parts Control HELPS Garage Bring Annual Return of \$7 a Square Foot

In a town the size of Elgin, Illinois, with a combination storage and service business, a return of \$7.00 the square foot indicates pretty thorough business methods on the part of the proprietors.

Not only do Samson & Smith get that return from For every automotive dealer or service station, re-

"one of the neatest and best organized garages in the territory" but they grew up to their present Grove Avenue location from a little rented shed at Brook and Dexter Streets.

This view of their parts and accessory department shows to what extent that part of their business has expanded from two Lyon Universal Units.

Here selling and service facilities are profitably combined. The glass fronted Lyon Steel Counters give clean attractive display to merchandise items. The Lyon Auto Parts Control System, back of the counters, makes service speedier, renders stock keeping easier, and makes re-ordering simpler.

gardless of make of car or of number serviced, there is a Lyon Auto Parts Control System specifically fitted to his needs. Cut down on wasted time and wasted effort. Raise your profits. Write for complete information, giving the names and numbers of cars you service, or ask your automotive jobber.

LYON METALLIC MANUFACTURING CO. AURORA, ILLINOIS

Plant No. 2 Jersey City, N. J. Plant No. 3 Los Angeles, Calif.





LYON Auto Parts Control

Storage Systems, Counters, Steel Benches, Bench Drawers, Tool Boxes, Display Racks, Cabinets, Lockers and Miscellaneous Steel Equipment

The Willys-Overland line—from the Whippet to the Willys-Knight Great Six—covers 97% of today's motor market.



97% Market Coverage Solves the Problem of lost Sales

WATCHING a prospect go out the door, because you don't handle a car in his price class, is always a sorry experience. The Willys-Overland franchise, providing complete market coverage, makes that situation impossible. No matter whether the buyer wants an inexpensive light car or a luxury "Six", you'll have just the car desired, with exclusive features to clinch the sale. It's a safe and sound franchise to sell under this year—and next—and the years to follow.

WILLYS-OVERLAND

The WILLYS-OVERLAND FRANCHISE

Enables You to COMPETE Successfully in Every Price Class

THE Willys-Overland franchise gives you a car for every buyer, regardless of what he wants to pay.

Moreover, it assures you of exclusive selling features in every price class.

The Whippet and Whippet Six-priced from \$625 to \$925—are the lowest-priced cars in their classes offering 4-wheel brakes nationally. Other light cars can but follow their lead.

The two brilliant Willys-Knight Sixes, the "70" and Great Six, from \$1295 to \$2950, have the patented Knight sleeve-valve engine—which improves with use.

Every year sees an impressive growth in the popularity and sales of these splendid cars.

Thus you handle a line of cars that gives you 97% Market Coverage. You have greater protection against market changes and increased profit opportunities.

Willys-Overland backs up dealers with liberal discounts, sound cooperation in merchandising used cars, and a specific Sales Plan for the dealer's particular community.

If you are interested in improving your profit possibilities, write for complete franchise details.

Send for complete details: Sales Department, Willys-Overland, Inc., Toledo, Ohio. Willys-Overland Sales Co., Ltd., Toronto, Canada.

The Greatest WHOLESALE STORY Ever Told!

It is published in handsomely bound book form. Compiled as a result of a complete territorial analysis by a group of the industry's leading manufacturers who successfully distribute through jobber channels.

Gives the first, second and third line wholesale distributing centers in each state. Supplies complete data, including number of car agencies and service stations in each of the cities and towns listed, populations, etc., etc.

Presents an outline map of the United States whereon points of distribution are located.

For the merchandising men of the industry who are confronted with wholesaling problems it offers many pages of general production and marketing information which will prove invaluable.

Advance copies are available. If you are entitled to a copy we want you to have it. If you are an automotive manufacturer with wholesaling problems, or an advertising agency executive concerned with automotive accounts, you are "entitled." It will be sent with the compliments of

MOTOR WORLD WHOLESALE Chestnut and 56th Sts., Philadelphia



Sells On Sight Because Its Necessity Is Recognized



This shows NOGLAR tilted down to stop glare.



This shows NOGLAR tilted up when not in use.



Free Display Stand

This attractive display stand sent FREE with first order for 12 NO-GLARS. Holds NOGLAR firmly and invites your customers to operate the shield. A real sales promotion device.

Honold NOGLAR is a profit producer because every motorist knows the driving dangers caused by dazzling sunlight and glaring headlights.

NOGLAR banishes these hazards with its crystal clear green shield. All blinding glare is subdued without reducing visibility. Eye strain and mental strain is ended.

NOGLAR operates by a touch of the finger. It flips down when needed and folds up out of the way when not required.

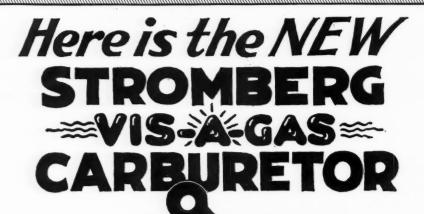
NOGLAR is made of highly polished nickel plated parts, durable and attractive. The shield is of heavy crystal clear Pyraline. Made for all cars. Bracket adjustable. Installed in a minute and requires no further service.

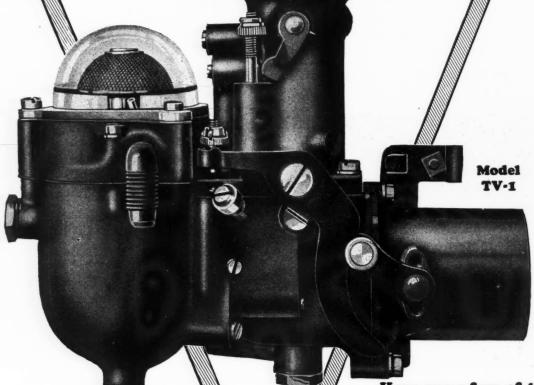
NOGLAR is different than all so-called shields. It is a super-accessory that will sell in volume at the low price of \$1.50 retail.

Write or wire for discounts and literature.

HONOLD MANUFACTURING CO. Sheboygan, Wisconsin

NOGLAR





A Wonder in Performance and Economy

The best carburetor that science and engineering skill has ever devised. 20 years of experimenting, developing and building are back of it.

The new Vis-a-Gas Carburetor has in it all of the excellent qualities for durability, dependability and precision of action as the famous NA-T4—the carburetor which was responsible, in a great measure for the remarkable aeroplane achievements of Lindbergh, Chamberlain, Byrd, Maitland and Hegenberger.

DEALERS: Read the special selling features opposite and then write us for detailed information about this wonder carburetor and other Stromberg Automobile necessities; also our new discounts and dealer co-opera-

Here are a few of the many Selling Features:

New patented and exclusive feature starts and warms up the motor in one-third the time of ordinary choke control, summer or winter.

Automatic accelerating well that provides that extra shot of gasoline necessary for quick get-away. Independent two-hole low speed and idle, turn over motor slowly-great in crowded traffic.

Double venturi tubes to turbulate gasoline and air twice before reaching manifold thus providing a perfect combustible gas entering cylinders.

The Vis-a-Gas filter strains every particle of dirt and water from the gasoline before it enters the carburetor.

It also permits driver to see instantly whether or not gas is flowing freely. Can be easily drained and cleaned, and pro-vides handy means of obtaining small quanti ties of gasoline needed.

Each carburetor built for a particular make and model of car, thereby insuring perfect operation on the motor for which it is used.

STROMBERG MOTOR DEVICES CO., Dept. B 7, 58-68 East 25th Street, Chicago

Direct Factory Branches: 517 W. 57th St., New York City
1529 Laurel Ave., Minneapolis
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A wonderful record of Griefless Performance



DEALERS ARE MORE THAN SATISFIED!

No broken straps—no broken springs—no grief for the car owner and no grief for the dealer. The three simple moving parts on the Chanson Shock Absorbers are all designed oversize.

Nothing can wear out or require adjustment. Lightning fast — with smooth, velvety action under all road conditions. The strap, with 21 inches of travel (twice the length of any car spring) instantly smothers the rebound. No pre-loading with Chansons.

Dealers call it the big profit shock absorber. Hard boiled jobbers say "at last a shock absorber without grief." And another point—

ONE SIZE FITS ALL CARS except Fords

(HANSON

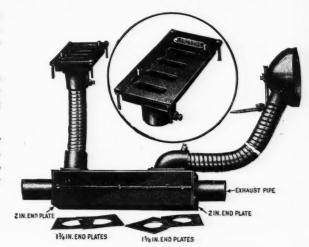
SHOCK ABSORBERS and HEATERS

Jobbers and dealers call the new Chanson line of exhaust heaters the fastest selling, most complete line on the market. Quality built into every part—and a wide price range to fit the purse of every car owner.

Now—as a leader to get the price plus quality buyer we are introducing the new Chanson Universal Hot Air Heater pictured on the right. One size fits 90% of all late model cars. Installed without cutting the exhaust pipe.

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SEE YOUR JOBBER or WRITE FOR PRICES TODAY



ILLINOIS IRON & BOLT CO.

Dept. 718

Est. 1864

CHANSON DIVISION

Carpentersville, Ill.

The Right Bearing



for Every Car



Angular Contact Radial Bearing

B. C. A. Bearings For the Clutch

In many of America's finest motor cars, B. C. A. Angular Contact Radial Bearings give exceptional service in the clutch throwout position. Long life and noiseless operation are the natural result.

This company specializes in solving ball bearing problems.

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THE BEARINGS COMPANY OF AMERICA LANCASTER. PA.

KESTER SOLDER Safe and saving on electrical work

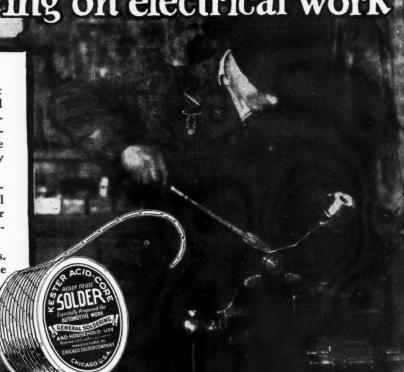
Speed-

On electrical soldering, speed without sacrifice of safety, is what Kester will do. Kester Acid-Core Solder is approved for heavier electrical and general soldering, but for very delicate wiring Kester Rosin-Core Solder only should be used.

Both Kester Acid or Rosin-Core Solder will save you time and material wherever you use them. Add to your profit by ordering Kester from jobbers everywhere.

Packed on 1, 5, 10 and 20 lb. spools. The larger the spool the greater the saving.

CHICAGO SOLDER CO.
4203 Wrightwood Ave.
CHICAGO . U.S. A.



Life-Long Service

An Air Compressor—like the roof of a building—is something you want to buy and forget about.

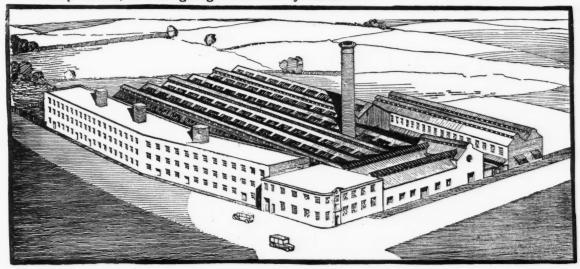
With the exception of a little lubrication now and then, and maybe a worn part or two, Quincy Compressors require very little attention.

Such service is possible only because Quincy Compressors are built right in our own factories by Quincy Engineers, from the highest grade materials obtainable. Before you select whatever type of compressor you need, investigate the merits of Quincy Compressors. Our prices are right in line with any make. Our service is equalled by few. Write for complete information to 219 Maine St.



Extensive Newly-Built Freehold Waterside MANUFACTURING PREMISES AT LOWESTOFT, SUFFOLK

With frontage to the deep water harbor, berthing accommodation for steamers, L. & N. E. Railway sidings run into works, large supply of electric power and cheap labour, low freightage and railway rates.



THE SUBSTANTIALLY CONSTRUCTED FACTORY is well lighted, and contains over 300,000 square teet of FLOOR AREA, half of which is on the ground floor; it is equipped with modern power plant, ready for immediate occupation and capable of housing an extensive business. The site area of works and additional land is 12½ acres. Plans, particulars and orders-to-view of:

LEOPOLD FARMER & SONS

Factory Specialists, Auctioneers and Surveyors
46, Gresham St., Bank E. C. 2 and Kilburn, N. W., LONDON, ENGLAND

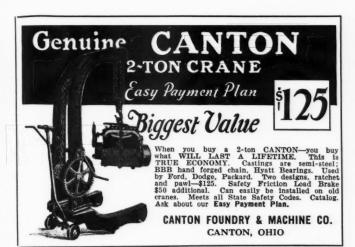


LAPS

Parts Department. It is a system for classifying and displaying parts by methods which increase both profits and sales.

DAVID LUPTON'S SONS CO. General Motors Building, Detroit Laps Systems are always up to date with latest parts books







Chairman of leading British Company

manufacturing automobile accessories shortly visiting the United States desires to enter into negotiation with American firms prepared to grant licenses or concessions for the manufacture and/or sale of automobile accessories or specialties in Great Britain and Continental Europe. Reply in first instance to A. F. S., FRANK PRESBREY CO., 247 Park Avenue, New York City.

There's always . something new just at hand for the . regular reader of

MOTOR AGE



The Only Lining With The Braking Surface Ground Smooth

"Its Life Is Double-With Half The Trouble"
UNITED STATES ASBESTOS CO.
MANHEIM, PA.
lew York Pittsburgh Chicago Detroit San Francisco

New York

San Francisco

What Is a Piston For?

To carry piston rings for sealing against oil pumping and compression loss.

A piston cannot be fitted tight enough to stop leaks or it will stick. Piston rings must do this work.

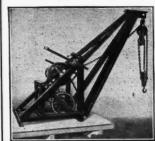
Why then fit new pistons to stop oil pumping and compression loss?

Simplex Piston Rings give this seal with the old pistons and keep them from slapping. A lot cheaper and better than resizing.

The Simplex Piston Ring Co. of America, Inc.

1971 East 66th St., Cleveland, Ohio

Why Pay More For Less?



Average Good Crane . . . \$110

"A.C.E." 3-ton Better Crane 78 YOU SAVE . \$ 32

Wise buyers buy "ACE" Cranes and apply the saving to the purchase of some other needed equipment. How About You? Write for catalog of Grease-Racks, Portable Inclines, Steel Horses, Tire Racks, etc.

Jobbers! It will pay you to write for the "A. C. E." Proposition.

AIR COMPRESSOR & EQUIPMENT CO. 288 E. Genesee St., Buffalo, N. Y.



fan belts.

L. H. GILMER & CO., Tacony, Philadelphia



BEAUTIFUL—Quick Sellers—Easily Installed The Eaton Bumper & Spring Service Co., Cleveland, O.



Sell new Thompson Valves at a good profit instead of regrinding old, worn-out valves at little or no profit.

Thompson Products, Inc

General Offices: Cleveland, Ohio, U.S.A. Factories: CLEVELAND and DETROIT

Damageproof against repeated boilings and freezings. Built to last the full life of the car. Complete radiators for Fords, Chevrolets, Dodges and Maxwells. Cores for all cars and TRUCKS. If not at your jobber's, write

J. C. Black Mfg. Co., Inc., Oil City, Pa.

An Advertising

Campaign in Motor Age right now will build summer sales MOTOR AGE

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5 MINUTE VULCANIZER

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Protexalls are very inexpensive, yet wear like iron; stocked in Khaki, Stripes and other fabrics. Spic and span attendants all wearing the same uniform are the cheapest form of advertising.

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YPSY AUTO LI shopmen. A good combination for profits. Wri 209 S. State St. ADE SHOP LIGHT

NEXT WEEK

—is the time to read next week's issue of MOTOR AGE, as you are reading this week's issue this week

MOTOR AGE

Chestnut and 56th Sts.

Phila., Pa.



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A piston ring, on the principle of a packing ring, that gives remarkable results in service, is used in thousands by automobile factory branches for replacement—and have a profit worth while. WRITE FOR DETAILS.

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2332 Michigan Avenue, Chicago
Factory: Denver, Colo.
Canadian Distributors: Purser, Bull & Co., Ltd.
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Write for the Book

BRUNNER MFG.



REBORER AND GRINDER

big money-maker in any automobile repair shop or garage. Ask for free monstration in your own shop.

SIMPLICITY MANUFACTURING COMPANY
Port Washington



PISTONS FITTED WITH PINS

Arrow Head standards are the same for both equipment and replacement. The motor's reputation in the field must be carefully maintained.

ARROW HEAD STEEL PRODUCTS COMPANY Buffalo Chicago

Minneapolis, Minnesota Axle and Drive Shafts

The most successful merchandisers keep at it every week - -



It's a Permanent Repair!

Have a can of CONNEAUT PLASTIC METALLIC PACKING in your garage and be ready for the fellow who says he can't keep his water-pump from leaking. All sizes in one can. Stocked with your Lobbor.

Manufactured by
Prevent THE CONNEAUT PACKING COMPANY
Ohlo



Gas Gauge for Ford Chevrolet—Overland—Star Sells quick at \$1.25 retail. Types "K" and "J" for 1926 Chevrolets and all Stars sell at \$1.50. THE AKRON-SELLE CO.



AKRON, OHIO

Motor Trunks, Racks and Equipment exclusively. All types and styles. Genuine Duco finish, or bright black. A money-making line. Write.

BIGLER MANUFACTURING CO.
CHIPPEWA FALLS High St. WISCONSIN

Orrville Spring Governors

Make Smooth-Running Profits

Among the foremost popular sellers for easier riding. Simple in operation and easy to install. Check the rebound and control the springs against "galloping". Ask for illustrated literature and discounts worth while.

ORRVILLE SPRING GOVERNOR CO., INC.

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JOHNS-MANVILLE Asbestos Brake Lining

SHIP US YOUR

STEWART—A.C.—NORTH EAST SPEEDOMETERS FOR REPAIR

Catalogue of Parts and Repair Charges Sent upon request, WRITE!

SPEEDOMETER SERVICE

1919-21 Chateau St., N. S., Pittsburgh, Pa. WE ARE NO FURTHER THAN YOUR NEAREST MAIL BOX



Trunks, Trunk Carriers, Pumps, Bumpers, Jacks See our combination trunk, trunk carrier, spare tire carrier and bumperette. COMPLETE line for all carrier and bumperette. COMPLETE lin cars. Write for prices and nearest jobber.

THE BELLEVUE MFG. CO.

Bellevue, Ohio

TIMING GEARS

Prolong the Life of Shaft Bearings

THE CELORON COMPANY

Division of Diamond State Fibre Company Bridgeport, Penna.



Portable Electric

GRINDERS—POLISHERS Ask for Catalog 105

The United States Electric Tool Co. Cincinnati, Ohio, U. S. A. Oldest Builders of Electric Drills and Grinders in the World



FAWSCO

New Style

Are the Best

No. 121 Circular Tells

FAWSCO WRENCH CO., 27 Warren St., New York City

WE MAKE

RADIATOR CORE MACHINERY

Write for Catalog and Prices

RADIATOR ENGINEERING CO.

FACTORIES BLDG.

TOLEDO, OHIO



"OIL CONTROL" PISTON RINGS

The Motor Necessity That Has Made Good Backed by Seven Years' Satisfactory Service THE WEL-EVER PISTON RING CO., TOLEDO, OHIO

Chicago, Illinois

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Ten cents a word is the rate for all undisplayed advertisements set solid, regular want ad style; minimum charge \$1 an insertion. All capitals, 12c a word; all capitals, leaded, 15c a word. Payable in advance.

CLASSIFIED ADVERTISEMENTS

FOR SALE—Duesenberg Straight Eight 183 cu. in. racing car in good condition; also \$5,000 worth of extra parts—any reasonable price considered. A. R. Bartold, 150 Westcott St., Rochester, N. Y.

WISH to arrange with manufacturer to make and sell patented Universal Wheel and Gear Puller. On royalty basis or otherwise. Henry T. Riberdy, 1127 N. Court St., Rockford, Ill.

C. L. PARKER

Ex-Examiner U. S. Patent Office Attorney-at-Law and Solicitor of Patents McGill Building, Washington, D. C. Patent, Trade Mark and Copyright Law

Orrville S

A. F. S. P



with this 140-page catalog

No matter what kind of engine you are repairing—no matter what oversize piston pins are necessary—we have them in stock and will ship within one hour of receiving the order.



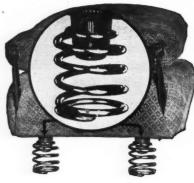
And our 140-page catalog shows you exactly what to ask for by telegraph.

This catalog puts speed into your service just as Thompson Piston Pins put quality into a repair job. Thompson Piston Pins are sold through jobbers—but you should request your catalog direct from THOMPSON PISTON PINS, Defiance, Ohio.

THOMPSON PISTON PINS

Easy Ride Shock Absorbers

6
Different
Models
for
All Cars
with
Tilting
Seats



Shock Absorbers

Where They Belong Under the Seat

For the Seat Legs



"All Car" Shimmy and Anti-rattler 18 Different Anti-rattlers

"All Over the Car"
Mfgrs.

Universal Spring Co.

Grand Rapids

51 Grand Ave.

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"While I'm Overhauling, Why Not Complete the Job?"

That's what the wise mechanic says when he sees his customer's timing chain is nearly done for. Why not replace it with a "Whitney" High Mileage Silent Chain, at the same time the valves are ground and the cylinders honed?

The service man profits on both the installation and on the "Whitney" chain itself. Moreover, he can be confident that in replacing with a "Whitney" he has furnished a chain of long life and quiet performance with great satisfaction to his customer.



There is a "Whitney" distributor near you. He can give you a profit-making list of "Whitney" types and sizes. If not, mail the coupon direct to us.

The Whitney Mfg. Co. Hartford, Conn.

Service Station		Fle	eet Ow	ner	☐ Parts	Jobber
Address						
Name		• • • • •				
I want that boo	k on	chain	specifi	cations.		



\$1 to \$6 extra armature profit is worth looking into!

F you throw burned-out armature cores away, your scrap heap must represent a fortune! These cores are worth money. For they are as sound as a dollar. Exchanged for Fredericks Rewinds, they mean a dollar to six dollars profit on every armature.

An armature properly rewound is equally as good as a new armature. But it is no easier to rewind an armature properly than it is to build a good new armature.

Through this new light, thousands of armature buyers have switched to Fredericks Rewinds. Their first impression of all rewound armatures was changed by trying ONE Fredericks Rewind. Now, out of fairness, we ask you to try ONE Fredericks Rewind so you may discover the difference between these and ordinary rewound armatures. When you buy the next armature, try a Fredericks Rewind.

Over five hundred armatures are rewound daily in the huge Fredericks plant at Lock

Haven. Each armature requires more than fifty operations. Machinery, some designed and patented by us, speeds the work. As each operation is completed, careful tests eliminate all chance of failure. The men at work are skilled armature men. Note that just as in new armatures, both ends of a Fredericks Rewind are insulated—Plus value!

We cordially invite you to visit the Fredericks plant at Lock Haven at any time and view the operations. Then you too will be con-M. Fredericks Company, Look Haven, Pa. Fredericks I vinced Fredericks Rewinds alone can come up to your quality standard. Meanwhile, have a Fredericks price list on hand. Mail the coupon now for a free copy. H. M. Fredericks Company, Lock Haven, Pa.

FREDERICKS

Rewinds

The Motorist goes

Where he is Served Best

If "free air" is for the purpose of attracting customers who will buy their gas and oil from you, then the safest and most convenient air service will attract the most customers. Free air need not be an expense. The Curtis Tower Type Air Stand makes this service an investment in good will again as it was in the early automobile days.

A slight pull on the suspended hose brings the tower arm into position where all four tires may be reached without moving the car. When released, the arm automatically "hangs up the hose." An oil cushion retards the motion of the arm and keeps the hose from whipping about to endanger car or operator.

When idle, the hose is kept up, out of road tar and oil. It cannot kink or lie on the ground to be run over and cut with gravel. Thus your hose expense is reduced materially.

You will not have to be continually adjusting or repairing the Curtis Tower Type Air Stand. In it are incorporated the same simplicity of design and construction that have been so marked in Curtis products for the past 73 years.

Look over the many other desirable features listed at the right. Then use the coupon to obtain full information.



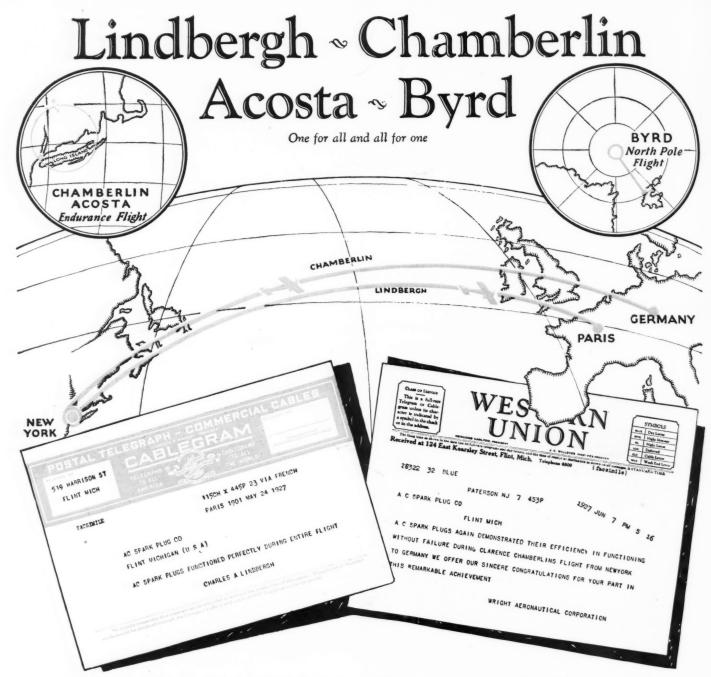
Here is the ideal unit to have behind your air service—the Curtis Style "V" Automatic Compressor.

Additional Facts About the Tower-Type Air Stand

Two styles are made—one for air only, the other for both air and water service. The stand serves a complete circle with a diameter of 32 feet. Kerosene is used in the oil-check control, operating perfectly in freezing weather, The arm operates on ball bearings which are protected from the elements by the hood of the rotating head. There is a clearance of 8½ feet under the arm in lowered position. A flexible guard prevents breaking where it is attached to the arm. The arm is reinforced to prevent breaking where it joins the rotating head. The base is 14 inches in diameter. A hand hole in the base makes connection to air and water lines very, easy. The stand is finished in orange duco,



CURTIS PNEUMATIC MACHINERY COMPANY, ST. LOVIS.



HERE are no Service Stations along the route of a trans-Atlantic or polar flight.

In such a test, failure of a single spark plug might spell the difference between triumph and disaster.

In that first successful non-stop flight across the Atlantic, Colonel Charles A. Lindbergh placed his firm faith in AC Spark Plugs.

For his historic flight from New York to Germany, Clarence D. Chamberlin relied upon AC Spark Plugs.

Acosta and Chamberlin, in 51 hours of continuous flying above Long Island, established a world's endurance record with AC Spark Plugs.

Commander Byrd, in his daring flight to the North Pole and return, marked up still another clean score for AC Spark Plugs.

If you should ask Lindbergh, Chamberlin and these

other great flyers what plug they recommend, they would tell you AC—the plug on which they staked their lives.

Dealers, tell your customers AC is the plug used by Lindbergh, Chamberlin and other great flyers.

Tell them you can give them the same kind of AC Plugs—same insulation, same quality of electrode, same basic design, that made possible these record breaking flights.

If you tell these facts, you can sell an even greater volume of AC Spark Plugs.

AC Spark Plug Company, FLINT, Michigan

AC-SPHINX Birmingham ENGLAND

Makers of AC Spark Plugs C Speedometers—AC Air Cleaners AC-TITAN Levallois-Perret FRANCE onceived fre sped

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Over 200 of the world's most successful manufacturers use one or more, or all of these AC Products AC SPARK PLUGS AC SPEEDOMETERS AC AIR CLEANERS AC OIL FILTERS